SAFE FROM SMALLPOX

These children have been vaccinated. Do they look like they have been hurt?

The United States Public Health Service reports that from August 20 to December 10, 1927, there was an increase of smallpox cases of 16 per cent over the reports of the same period of 1926, and an increase of 43 per cent over the same period two years ago. For more than one hundred years vaccination has been a proved preventive. Smallpox today is a disease of the ignorant, the careless or the prejudiced. Intelligent, careful people do not choose to have the disease. It is spread by the other kind. If you have not already been vaccinated, go and have it done at once.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

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FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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THIS ISSUE OF THE BULLETIN

We are presenting an unusual amount of technical matter this month. We, therefore, call special attention to three of the contributed articles which should be of interest to all physicians and dentists as well as to health officials and all intelligent laymen.

First. The articles on "Hypertension" by Dr. W. T. Rainey of the staff of the Highsmith Hospital, Fayetteville, is a very interesting discussion of high blood pressure, a subject of almost universal interest to nearly everybody over fifty years of age.

Second. Dr. W. Bernard Kinlaw, director of the division of heart diseases in the Boice-Willis Clinic of the Park View Hospital, Rocky Mount, contributes a valuable article under the title of "The New Captain of the Men of Death," Dr. Kinlaw's article is written in language easy to understand.

Third. The article on "Oral Hygiene" contributed by Dr. E. B. Howle, Raleigh, is a technical discussion of a subject which concerns the public in general and physicians and dentists in particular. We hope our readers will not miss either of these contributions.

NORTH CAROLINA HEALTH OFFICER HEAD OF HEALTH WORK IN JAMAICA

It will probably be of interest to a number of people in this state to know that the health work on a co-operative basis between the English Government and the Provincial Government of Jamaica, aided by the International Health Board, is being conducted by a native North Carolinian, Dr. B. E. Washburn of Rutherford County, North Carolina, has for several years been stationed at Kingston, Jamaica. Dr. Washburn is a graduate of the University of North Carolina and a graduate of the Medical Department of the University of Virginia. Dr. Washburn issues a monthly bulletin in connection with the health education work of his department there. His friends in North Carolina are confident that "His Majesty's Health Service" will be properly executed by Dr. Washburn and that it will be just as enthusiastically done as if he had been born in London instead of Rutherfordton. The September issue of the American Journal of Public Health gives the following synopsis of the work done in Jamaica in 1926:

"Government of Jamaica.—The 1926 report of the co-operative health work in Jamaica by the government and the Rockefeller Foundation reached more than 60,000 people through the units of sanitation, hookworm treatment, school hygiene, dental clinics, and the public lectures. Publications of the Health Education Bureau went to 5,000 citizens. Definite projects of public health have been undertaken as a means of educating the people in the belief that one definite and concrete example carries more weight and is more convincing than a large number of partly performed undertakings.

"A total of 20,591 persons were examined for intestinal parasites by the commission, and 15,569 were found to be infected. Treatment campaigns were conducted only in areas which have been 'sanitized.' The sanitation staff supervised the erection of 4,106 'sanitized' latrines of standard type during the year. At present, it is stated, sanitation and health measures are advocated and discussed at meetings of parochial boards, agricultural societies, citizens' associations, and teachers' unions in all parts of the island. The annual budget for a unit of treatment work of the Hookworm Commission is 3,000 pounds. This provides a staff consisting of a medical director with an allowance for travel, a chief clerk, and two assistant clerks, two microscopists, nine dispensing nurses also with a travel allowance, and a caretaker, as well as provision for rent and supplies."
THE NEW "CAPTAIN OF THE MEN OF DEATH"

By

W. BERNARD KINLAW, M.D.

Rocky Mount, N. C.

Tuberculosis for many years was called the "Captain of the Men of Death," but recently a new captain has been elected in our state, and the same treacherous "captain" seems to hold the reins throughout the country. "Heart disease" is the new "captain." The death rate from tuberculosis has been greatly lowered in the last ten years in North Carolina, not because of any wonderful new discovery, because nothing of value in the way of treatment has been instituted; but because our state board of health, our tuberculosis sanatorium with its diagnostic clinics, our tuberculosis associations, the physicians throughout the state, the nurses, the school teachers, and others have all combined to diagnose tuberculosis in its early stages. Early diagnosis of heart disease and routine examinations of the person that is liable to develop it, due to some predisposing disease, must be one means of checking the steady increase of deaths that occur between the ages of 40 and 60.

It is between the ages of 10 and 20 that children are more susceptible to rheumatic fever and later chorea (Saint Vitus's dance) which is one of its complications. This is one of the diseases that nearly always leaves the heart in a damaged condition, while scarlet fever, syphilis, diphtheria, and tonsillitis, and probably others to a less extent, may injure the heart. It is therefore imperative for the parents and school teachers to keep children under close observation that have had either of these diseases. When it is noted that the child does not enjoy playing as much as other children, gets tired more easily with probably a cough after exertion, or seems fond of its studies, but less interested in exercises after its illness than before, then the child should have a complete heart examination. This should be done by the family physician, school physician, or at some heart clinic. In young children (under 10 years), there may be only the so-called "growing pains" as a sign for rheumatic fever. The swollen, red, painful, joints with fever are not always present, therefore, when a young child repeatedly complains of aches or pains in its joints, with or without sore throat, it is wise to consider them as a possible early heart case, until proved otherwise. The physical condition of these children who have had rheumatic fever, chorea, or any of the other named diseases, should be checked every one, two, or three months, depending on the findings or symptoms. Their tonsils should be removed and prophylactic medication used each winter. A record should be made at each examination of the gain or loss in weight, the response to exercise, the size of the heart, the presence or absence of organic heart murmurs or sounds, and the condition of the blood in regard to the amount of anemia. Where there is a question of definite heart abnormality, an X-Ray to get the exact size of the heart should be made and kept as a record, and a tracing made of the heart action by the electro-cardiograph.

In heart clinics these observations are made at regular intervals for several years, and it is remarkable how the little patients will respond to treatment if begun early. A new automobile gets more frequent checking and overhauling, at a greater expense usually, than does the average child. The automobile with damaged valves can be repaired with new ones, but the human machine must slow down and finally stop when its heart valves are badly damaged because they cannot be replaced.

The etiology of rheumatic fever has not been determined but it is apparently a contagious infection, as several cases are often seen in the same family. This may be due to the contagiousness of tonsillitis which often causes rheumatic fever. The work that is being done in the prevention, diagnosis, and treatment of scarlet fever, diphtheria, and measles, also the more frequent removal of tonsils and other foci of infection, both in children and adults should certainly help lower the heart disease death rate in the future.

The larger number of heart deaths is in persons over 40 years, and is caused by high blood pressure and hardening of the
Tularemia is a plague-like disease of rabbits and other small animals as ground squirrels and rats. The infection is transmitted to man by the bite of a horse-fly or tick which have fed on jack rabbits or squirrels infected with the disease. The more common means of transmission of the infection is by direct contact with an infected animal.

Pearse of Brigham, Utah, in 1910, reported a local outbreak of a disease characterized by large painful glands in the region of an infected insect bite. The swollen glands frequently suppurred and the process was accompanied by a typhoid-like fever of from three to six weeks duration. The condition was characterized by great prostration and a slow convalescence.

In 1911 McCoy and Chapin of the United States Public Health Service, after examining a large number of ground squirrels in Tulare County, described a plague-like infection which they called Tularemia. Later these workers discovered the infecting organism and named it Bacterium Tularensis.

McCoy and Chapin in 1912 reported that the serum from a patient ill with the disease would agglutinate the organism.

Tularemia is thought to be a wide spread infection among rabbits. The infection has been reported from 22 different states.

The onset of the disease is sudden and is accompanied by headache, chills, vomiting, fever and prostration. The glands draining the site of the infection are enlarged and tender. At the site of the infection there usually occurs a painful, swollen, inflamed papule which within a few hours breaks down, leaving a small punched out ulcer. Frequently the swollen glands suppurate and break through the thin overlying skin.

The organism is not agglutinated by the serum from one ill of this disease during the first week of the infection. Agglutination is of great diagnostic value as the disease may be mistaken for typhoid fever or other infections.—Sacramento (Cal.) Health Bulletin.
HYPERTENSION

By

W. T. RAINEY, M. D.

Fayetteville, N. C.

It is not my purpose to make the scope of this paper as broad as its title indicates but rather to confine the discussion to that phase of it which, for the lack of a better name, is termed Essential Hypertension. Much has been written on this subject and there still remains much to be learned. We are continually faced with problems in hypertension which we cannot explain. I recall a case in a male, age 35 years who came in about 3 P. M. for an insurance examination; his systolic pressure being 148 and diastolic 100. He had had a rather strenuous day and was told to return at 6 P. M. for another reading, when the systolic was 160 and diastolic 100. The pressure was taken again at 10 P. M. and found to be systolic 176 and diastolic 100. The next morning the systolic was 128 and diastolic 98. At the second and third readings he was somewhat nervous, had some muscular twitching, not very noticeable however, rather cold clammy skin and increase in pulse rate. No other abnormalities were found and several readings since then have all been normal. This man stated that he was somewhat frightened about the slight increase and it worried him. Was this increase due to the nervous strain or an increase in the function of the suprarenals and what is the prognosis in such a case after he passes forty? Will his tension become permanently elevated or not? We occasionally see when the blood pressure is taken before and after a physical examination, especially in individuals of a nervous temperament a difference of 20 to 30 mm. in the systolic pressure in the two readings, the first one being higher. Compare, too, the individual with a systolic pressure of 200 with no symptoms with one who comes in complaining of headache, dizziness and other symptoms referable to hypertension whose systolic pressure is not over 170 which is the only difference found in the two. These and other like problems are constantly confronting us and the patient wants to know the why and wherefore. Hypertension and other degenerative diseases are on the increase and the death rate from them is mounting each year, which makes their consideration very important.

From the multiplicity of etiological factors advanced one can readily see that the immediate cause of essential hypertension is unknown. It is a disease seen occasionally in children and young adults but is usually found in those over forty. Prolonged mental or physical strain, especially the former, may have an influence. Essential hypertension occurs rather more frequently in the high-strung, nervous, or irritable individual than in the man or woman of placid disposition, though the latter is by no means immune. When the marked fluctuations of blood pressure resulting from nervous tension are taken into consideration this certainly looms large as a possible etiological factor. High living, excessive eating and heavy smoking may be contributive causes.

In instances like the one mentioned in the beginning where there is a great variation in the systolic pressure occurring within a short time it is very tempting to assume that an over-activity of the suprarenal gland is responsible for the rise, but, so far, no definite proof of it has been found. However, there is probably some factor which brings about a spasm of the smaller blood vessels. This produces an increased peripheral resistance and necessitates a rise in blood pressure in order to maintain an efficient circulation. Whether such a stimulating effect is produced locally upon the blood vessel or through the central nervous system is an unsettled question.

The association of hypertension with menopause, especially in obese women, is frequently seen. Marked obesity in itself may account for an increase of 20 to 30 points in the blood pressure. We have followed these women through the menopause and oftentimes find that after the readjustment has been completed their pressure will return to normal or show a drop without any subsequent increase which would seem that the changes taking place in the glands or internal secretion at this
period of life account in some way for the rise in blood pressure.

In the early stages of Essential Hypertension there may be no accompanying signs or symptoms as the increase is apparently a compensatory process which is necessary to overcome an abnormal degree of tonicity in the arterioles. We frequently see cases of increased arterial tension extending over a considerable period of time without any discoverable impairment to account for which indicates that this disease is independent of any known anatomic change. The height to which the blood pressure rises varies greatly oftentimes attaining a level of 300 or higher. The diastolic pressure rises commensurately, the relation of the diastolic pressure to the systolic depending on a large extent on the functional efficiency of the heart muscle and on the condition of the arteries.

The earliest symptoms vary greatly depending partly upon the sensitiveness of the patient to his developing lesions and partly upon which set of blood vessels becomes damaged. Sometimes in the early stages of the disease the diagnosis may be confused with neurasthenia. They are easily fatigued and readily exhausted, depressed and complain of vague neuralgic and muscular pains. Associated with these may be gastro-intestinal manifestations of fermentation and "dyspepsia." Loss of weight when present is of grave significance. As the disease advances the predominating symptoms are referable to the organ which is most involved as a majority of patients with essential hypertension die from changes in the heart, brain or kidney.

It is impossible to offer any idea of expectancy of life from the blood pressure alone. It is only by repeated examinations of the individual, watching the inroads made upon the heart, brain and kidneys that we are able to offer any intelligent prognosis of the number of years the patient will live and even then we sometimes see them overlive by many years our suggested expectancy. Usually Essential Hypertension is being extended over a period of 12 to 15 years while in some the effects of it manifest themselves within a very few years after its onset and cerebral accidents, cardiac failure and arterio-sclerotic kidneys may be the causes of death soon after the development of even trivial symptoms.

Here, as in other diseases, preventive medicine plays an important role and it is our duty as physicians to instruct our clientele how to defer old age. Osler very rightly said "a man is as old as his arteries." In the rush of modern living we are prone to neglect our physical well being and sacrifice our health for gain in other endeavors. Usually the impairments which cripple and impair begin developing before 30 and require 10 years or so to develop their damage. Our aim should be to increase the number of productive years and if we succeed in lessening the number of impairments about 40 we must find them in the 20's and 30's. Above the 40's we find the damaged brains, kidneys, hearts and arteries, damaged beyond repair, limited in their capacity for work, usefulness and happiness, most of which were at one time remediable and curable. In the near future I hope to see the periodic health examination as universally accepted as vaccination is today. Like in the early days of vaccination the public must be educated to seek these examinations and shown wherein it is to their advantage to have them made.

Rest and removal of nervous strain are the most efficacious means we have of controlling hypertension. Rest may mean absolute rest in bed for a few days or weeks. In the early or mild cases when rest is judicially combined with carthartics and a low protein and low salt diet, the increased blood pressure may be permanently set aside. In cases of a systolic pressure of 200 or higher a permanent reduction to normal is impossible though a stay in bed will frequently lower the hypertension very markedly, even returning it to normal. Even though it rises after the rest period is ended the circulatory strain has been removed for a time.

As far as possible all nervous tension and worry should be removed. Ofttimes this is hard to accomplish and requires a great deal of tact on the part of the physician. It is inadvisable to curtail all normal activities for the worry incident to this will do more harm than good in a man who has been accustomed to lead an active life. Mental work, even that entailing responsibility is well borne provided that the amount is not so great as to make the patient feel overtaxed. Explaining to the patient the necessity for slowing up in his activities will usually be sufficient to make him readjust himself
and co-operate with you in the treatment. No physical effort should be performed under the strain of hurry, whether it be a part of the daily routine or recreation. Much can be accomplished by a short period of rest each day on a couch.

The regulation of the diet in this condition has to meet many indications which vary in the individual case. The curtailment of proteins and salt is usually resorted to as a routine and aids in preventing putrefaction and abdominal distention. If discomfort is experienced after meals the ordering of four or five smaller meals instead of the customary three will be beneficial.

Obesity should be controlled as far as possible by ordering a low caloric diet. Constipation should be corrected by dietetic measures and once a week a thorough cleaning of the intestinal tract should be accomplished.

During the physical examination any foci of infection found should be removed as soon possible and the patient put in the best physical and mental condition possible.

As hypertension is a compensatory phenomenon no serious attempts should be made to interfere with it. If the smaller arteries can be dilated the hypertension may be lowered without harming the patient. Unfortunately we have no remedy which can do this in a convincing manner. The ideal drug would be one which will lower the pressure over long periods without any untoward effects on the heart, gastro-intestinal tract or other organs. Recently some work has been done with hepatic extracts but much remains to be done with this before it can be accepted as a remedy of some value in these conditions. In a series of cases in which this was used the results were disappointing. In selecting these cases I took only those who showed no organic changes and gave them repeated injections of the preparation watching its effect upon the blood pressure. As a rule for the first two hours the pressure would drop from 10 to 20 points in the systolic reading and then gradually return to its former level. After the treatment was discontinued the mean pressure would coincide with that found before starting it. Amyl nitrite, sodium nitrite and nitro glycerine give only temporary reduction and on a whole are not of much benefit in controlling the pressure. On account of its effect in cases of luetic origin Potassium Iodide has become one of the routine measures in treating these cases but there is no ground for assuming that it is of benefit.

The symptomatic treatment should be directed principally to the management of heart failure, arteriosclerotic kidneys and cerebral accidents after they develop and our aim should be to postpone their occurrence as far as possible by regulating the patient's mode of living as soon as the hypertension is discovered.

ONE MORE CURE-ALL

The Northwestern Health Journal tells of the exploiting throughout the State of Minnesota of one more kind of "cure-all." This time it is what the perpetrators call a "Radium Jug." They sell this jug for thirty-eight dollars ordinarily, according to the journal mentioned. Regardless of size, type, or age, thirty-eight dollars is the price, and all the recipient has to do to relieve suffering from whatever ails him is to fill this great jug with water and let it set for a specified length of time. Then all he has to do is drink the water from the jug, keep the jug filled, and the radium permeating the water from the jug does the work.

The Northwestern Health Journal thinks that drinking from the thirty-eight dollar jug may be an incentive to consume more water, as the average person might think that drinking from such an expensive jug would be much better than drinking from an ordinary glass or paper cup. Of course the radium jug so-called has no more medicinal power than any ordinary jug that could be bought at a store for fifteen cents, say.

We pass this item along for the information of those people in North Carolina who are all the time on the lookout for high priced mineral waters, and so on. And as this is the day of radium, as well as radio, such a productive field for the sale of thirty-eight dollar radium jugs as North Carolina is not likely to be long overlooked. The advice of the State Board of Health would be to let the agent keep the jug and to drink water from an approved public water supply or from one's own well properly constructed and carefully protected.
ORAL HYGIENE
A Mutual Obligation of Physician and Dentist
E. B. HOWLE, M.D., D.D.S.
President, North Carolina Dental Society

In 1891, Dr. W. D. Miller, an American dentist, professor in the University of Berlin, called attention to the mouth as a focus of infection. During several years which followed, especially in 1910 Dr. William Hunter, a physician of Liverpool, Eng., enlarged on this subject in such drastic and forcible manner as to arouse the interest of both the medical and dental professions.

Since that time a tremendous amount of research along this line has been done and resultant literature has flooded both professions, bringing forth many facts both experimentally and clinically but we are still far from a solution of this vexing problem.

In the oral cavity there are two main areas which may act as primary foci from which, we believe, infection may be carried into the blood stream: first, the supporting periodontal tissues; second, the periapical area which itself becomes infected through the pulp canal. Most of the literature on this subject has been confined to the latter. We feel that the former has not received the attention to which, by reason of its importance, it is entitled.

Periodontal Lesions
A few years ago we were taught in the schools that Pyorrhea was a disease of the alavolar process manifested by swollen gums, receding alveolus and a flowing of pus. This error has probably caused the loss of more teeth than all other causes combined. As to the amount of systemic disturbance attributable to this cause, it is not possible for us to make an estimation.

There is no such thing as Pyorrhea Alveolaris. The name is a misnomer and no longer used by students of periodontal lesions.

Frequently in early childhood, though generally somewhat later, a gelatinous plaque of mucin may be found adhering to the surface of the neck of a tooth just under the free margin of the gum. In this plaque bacteria become enmeshed and lime salts from the saliva deposited. When this process has advanced sufficiently, both the toxins of the bacteria and the mechanical irritation of the tartar bring about a slight amount of inflammation in the overhanging gum tissues. From these inflamed tissues serum oozes out into the space between the tooth and the free margin of the gum; from this serum lime salts in the form of hematogenous calculus are precipitated and deposited on the neck of the tooth. Thus, we see a vicious cycle has been completed.

The more tartar—the more inflammation
The more inflammation—the more serum
The more serum—the more tartar.

And so, we note in the patient’s mouth, first, a slight reddening of the gums and on minute instrumental examination we find a very slight deposit of tartar under the free margin of the gum not visible above it. This is Riggs Disease—Periodontoclasia. Later on we find the gums quite red and swollen and the tartar on examination apparent to the eye. The process continues and finally the alveolus gives way to the onslaught of bacterial toxins and mechanical advance of the deposit and when sufficient absorption of the alveolus has taken place a “Pocket” is formed between the tooth and the unsupported gum tissue about it. Still later (perhaps eight years, ten years, fifteen years after the initial lesion), the pockets become the seat of a secondary infection and pus begins to flow. This is not Pyorrhea; it is the last stage of Riggs Disease or Periodontoclasia.

Now, bear in mind that during all these years the periodontal tissues have been teeming with bacteria; their toxins have been taken up and carried away by the blood. There is an effort, to be sure, on the part of nature to cut off this area by the formation of a fibrous wall, but seldom does this wall appear sufficient to accomplish its purpose. So we find about each tooth an area of infection from two to ten times as great as the area at the apex of a pulpless tooth. Consider then
the result of having fifteen to thirty such infected teeth.

The policy of the dental profession to recognize Riggs Disease, alias Pyorrhoea, only after the beginning of the flow of pus has caused the loss of countless millions of teeth and untold suffering from absorbed toxins and secondary disease caused by bacteria which have been carried away by the blood stream and lodged in other organs.

The public must know the significance of the LITTLE RED LINE on the gum which means the beginning of Riggs Disease. It is our mutual obligation to teach them.

**Periapical Area**

In regard to the pulpless tooth, in spite of the unlimited amount of research and untold reams of literature, the solution so far as the general practitioner is concerned, is very obscure. The dental profession is displaying a tendency to take out less teeth. Whether this has been brought about by a clinical study of results obtained, or whether it is just a reaction from the stampede toward wholesale extraction, I am unable to say.

We know that 90 per cent. or more pulpless teeth are infected with some strain of Streptococcus; we know that nature attempts to wall this infection off by the formation of a fibrus sac about the apex of the tooth; we know that frequently this effort is ineffectual, and that in these cases bacteria are to be found in the tissues about the apex; we know that sometimes an effectual quarantine is established and that in these cases not only do we not find bacteria in the tissues about the apex, but so high is the efficiency of this protecting wall that if a piece of it be cut away and dropped on a culture of streptococcus, the bacteria will be destroyed for a distance of several centimeters around; but, on the other hand, we know that even after the infection has been completely cut off by a protecting wall that in case of lowered resistance this wall may degenerate and become ineffective.

It would appear that we are justified in extracting teeth which if allowed to remain present a condition of potential danger, which is held in check only by the resistance of the patient.

However, when we look further we find that approximately 50 per cent. of live teeth are infected. This does not mean that all of these teeth have exposed nerves. It has been definitely shown that the tubules of the dentine are larger than the bacteria, and that infection of the pulp can and does take place before the pulp is exposed. If we would then extract all infected teeth, where shall the process end.

It is possible that a solution may present itself; it is possible that many solutions may appear; the most logical solution to my mind is to forestall and prevent the pulpless tooth. This can be done only by a closer co-operation between physician and dentist in recognizing certain conditions which exist, in instituting corrective measures at the proper time which measures can be carried out only by education of the public.

Dr. Percy R. Howe, of Forsyth Dental Infirmary in Boston, Mass., has shown by experiments in a manner acceptable to the dental profession, that caries can be produced in the teeth of guinea pigs, fed on a diet which previous experiments had shown would produce the scorbatic condition. It is interesting to know that the first change in any osseous structure in animals killed at various stages of this experiment appeared in the incisor teeth as evidenced by changes in the formation of dentine and in the layer of odontoblasts. These changes would appear in from six to seven days and would progress if the diet were continued. However, by administration of orange juice the damage could be corrected in forty-eight hours.

Dr. Howe has not been able to demonstrate deficiencies in calcification in the teeth of a foetus by administration of deficient diet to expectant mothers—a fact which, it appears to me, is easily understood since in all probability nature supplies the needs of the growing foetus at the expense of the mother and this is possible the reason why the teeth of so many young mothers present an alarming state of decalcification.

Thus, we feel that the first step in the prevention of the pulpless tooth would be regulation of diet—the establishment of a balanced diet for the expectant mother before calcification of osseous tissues begins in the foetus; establishment of proper diet varied as varying conditions demand in the growing child.

The second great step in abolishing the pulpless tooth is the teaching of Oral Hygiene through community organizations and in the public schools. The
State Board of Health has been doing excellent work along this line all that could possibly be asked when we consider the small amount of financial backing which is at their disposal.

But more must be done and already a plan is on foot.

At the instigation of Dr. E. J. Tucker, dental member of the State Board of Health, Secretary Laughinghouse has suggested that a committee be appointed by the North Carolina Dental Society to confer with said Board of Health, with a view to establishing a course in Oral Hygiene in all the Teacher Training Schools in the State. This committee has been appointed. The move has been endorsed by the State Superintendent of Public Instruction. I have no doubt but that these courses will soon be instituted. It is then only a step to establish Oral Hygiene in the curriculum of every public school in the State.

Gentlemen, it is our mutual obligation to co-operate to the fullest extent to the end (first), that we may establish and maintain proper diet (second), that we may preach the Gospel of sound teeth and healthy gums.

SEVEN AIMS FOR PARENTS

1. Fill every period of your child's life with the joy of companionship.
2. Help your child to gain an inner self-control. He will thus be able to endure sharp experiences unflinchingly.
3. From his earliest years teach your child to overcome fear. His freedom of thought and action will fit him for constructive activities of all kinds.
4. Stimulate your child's curiosity. When he asks you questions, encourage his interest in and wonder at life by reasonable, satisfactory answers.
5. If your child has a sense of inferiority, seek to overcome it by dwelling upon that which will make him strong. Thus he will lose sight of his weakness in fun and achievement.
6. Remember that a well-rounded child needs to have a zest for life. Your attitude will assist him to deal with his world unsentimentally and with wisdom.
7. Last, but not least, develop in your child a deep confidence in the moral world. This you must feel yourself before you can ever communicate it to him.
—From "Children," The Magazine for Parents.

THE CODE OF HEALTH EDUCATION

Some Frenchman, or perhaps it was an Englishman, sometime ago made the remark that "to teach health is to teach a code of health, even a moral code, involving something more than healing a wound or keeping sauce pans sweet and clean, embracing such difficult problems as unemployment, epidemic diseases, psychological factors, and the whole question of family life and affection."

True enough. The platform of this BULLETIN for many years has been to keep on placing before the people of North Carolina just a few of the fundamental principles of public health protection, principles about which there is no longer any argument among intelligent people.

We have accentuated throughout the length and breadth of North Carolina the fact that no matter how much knowledge is present and available, unless it is thoroughly understood by the people such information is useless.

Knowledge only becomes power when it is applied. The water has been running over the waterfalls in North Carolina ever since the beginning of time, but no benefit resulted in the way of cheap power utilized to turn our mill wheels, cook our food, light our houses, and other things until this great water power has been harnessed and developed and its power applied to daily use by the people. So it is with a knowledge of public health and the protection from disease resulting from an application of the knowledge. All of this is worthless until we put the knowledge into application in our daily lives. Today it is necessary for somebody in some way to tell each growing child of this truth and to keep on telling it to him until he understands and accepts the principles, and when he grows up and assumes the responsibility of life that each individual must sooner or later acknowledge he is able to put into effect and to apply this knowledge for his own and his family's protection.

Mr. Tarr—"Doctah, whas de mattah wid Brudder Snoop? ? What 'zeas do he 'peah to be 'liciced wid, in yo' humble 'pinion?"
Dr. Dingfold—"Chronic chicken stealin' complicated wid birdshot in de back, suh."—The Watchman Examiner.
A USABLE PLAY FOR ELEMENTARY GRADES
(The Fourth of a Series)
By
ELIZABETH KELLY

This fourth of a series of plays or lessons for elementary grades has for its purpose the teaching of the value of habits of healthful and sane exercise in the development of a healthy strong body—the subject matter is purposely simple as is its methods of presentation. As with the other plays of the series, the teacher may elaborate the program by adding material and by introducing suitable costumes and scenery.

Healthful daily exercise must take into account the constant use of muscles toward the achievement of a correct posture of the body and the healthful function of all its organs. Rural patrons and teachers often claim that rural children get sufficient exercise by helping perform necessary tasks at home before and after school. The fallacy of this conclusion is found in results from the over-exercise of some muscles and the under-exercise of others which contribute to final wrong posture and unco-ordinated functions of the whole body. Healthful daily exercise is one of the necessary factors which produces a strong healthy body.

A LITTLE MORE ACTION

Cast
Teacher—A capable school girl.
Class—Four boys and four girls.
Mr. Healthful Exercise—A strong, active school boy.
Mr. Hiker—Strong, active boy.
Miss Dancer—Graceful girl.
Mr. Ballplayer—Athletic, alert boy.
Miss Swimmer—Strong, alert girl.
Mr. Jumper—Active boy.
Miss Skater—Athletic girl.

Scene
School room with teacher and class ready for lesson.

Teacher: Will you repeat the motto and golden text of the Body Builders?

Class: Our motto is: Mens sana in corpore sano. Our golden text is: The body is the temple of God.

The Lesson
Teacher: How may we have strong healthy bodies?
Class: We can have strong healthy bodies only by learning how to build them strong from day to day.
Teacher: Can each of you do this for yourself?
Class: Yes, if we have the right kind of materials and use them in the right way.
Teacher: Mr. Nourishing Food showed you the two best materials for strong body building and told you how best to use them. Miss Restful Sleep came and promised to build for you while you rest. Another Master Body Builder is coming today to show you how to build while you play.
Class: Building strong bodies while we play! Who is the Master Body Builder that can show us how? Please have him come now.
Teacher: Come in, Mr. Healthful Exercise.
Class: May I bring with me my helpers, Mr. Hiker, Miss Dancer, Mr. Ballplayer, Miss Swimmer, Mr. Jumper, and Miss Skater?
Teacher: We are glad to have you and your helpers. These boys and girls are a class of Body Builders and they are ready for you to show them how you build healthy bodies.
Mr. Healthful Exercise: First, the class must assume a correct posture for, like all other teaching, practice only makes my teaching worth while.
First Girl: What do you mean by correct posture?
Mr. Healthful Exercise: I mean you should sit and stand tall. Try it and keep it up.
First Boy: Can I always keep my body in a correct posture?
Mr. Healthful Exercise: Yes, if you have no bad health habits and have no physical defects to prevents a correct posture. You can remedy bad health habits such as eating wrong food, sleeping wrong and not keeping clean. You may have physi-
I wish them to do (pantomime). I build strength into your body.

Miss Skater: I, too, like Miss Dancer build grace and poise into the body (pantomimes or skates on roller skates).

Fourth Girl: Oh, it is fun to build this way. We thank you, Mr. Healthful Exercise, for bringing your helpers to show us these ways of strong body building while we have fun.

Fourth Boy: Have you other helpers who can show us how to do other things?

Mr. Healthful Exercise: Yes, many others, but these are the ones who most often help you build for yourself. There are numbers of drills, marches, games and special exercises which you can get to use in building, but most of them use some of the material my helpers showed you today.

Teacher: How often should we play these games?

Mr. Healthful Exercise: Some exercise to build strong muscles should be taken daily for at least an hour in the open air.

Teacher: Will you give us a creed which the Body Builders may learn and practice in building healthy bodies?

Mr. Healthful Exercise: Correct posture always; healthful outdoor exercise daily.

Teacher & Class: We thank you and we are “standing tall” to say goodby.

Mr. Healthful Exercise: We have enjoyed being with you and we are glad you are “standing tall” while we say goodby.

 Helpers: Don’t forget us, and goodby.

Teacher and Class: We’ll not forget you, and we’ll have a little more fun and a “Little More Action” each day.

A Missouri mother practices Coneism in her daily life and teaches it to her children. One day she had considerable difficulty in getting her small son to take a spoonful of castor oil.

“Now, Johnnie,” she reminded him, “all you have to do is to keep on saying to yourself: ‘This tastes good, this tastes good,’ and you won’t mind it at all.”

Johnnie, still hesitating to take the dose, suddenly had an inspiration.

“Mother,” he cried, “I’m going to say: ‘I’ve already taken it, I’ve already taken it,’ and then I won’t need to take it at all.”

—From Children, The Magazine for Parents.
THE NORTH CAROLINA SANATORIUM
FOR TUBERCULOSIS
An Inspiration to the Lover of Humanity and to the Person
Who Believes That the World is Growing Better

On a sunny afternoon in early October we had the privilege for the first time in more than eight years of spending several hours at the State Sanatorium for Tuberculosis. The visit was a revelation as well as an inspiration. In these intervening years the progress made in the State’s institution there, is nothing short of a revelation. To a physician and health officer experienced in the study and the treatment of disease and patients, the overwhelming impression gained on entering the doors of that institution now is that here is one place that puts into full practice the modern theory that the patient, instead of the disease, requires the most of the treatment. We went from cellar to turret. From the latter point the visitor looking to the north or to the south can visualize what might have been the view from the crater of the old volcano on which site the institution is erected. But on the east and west a mighty change would now meet the eye of a prehistoric stranger. To the north the great Camp Bragg target range stretches out for many miles; to the south the trees and the skyline seem to meet on the borders of Scotland County; to the east the smoke from the factories of Raeford, ten miles away, indicates the business activities in that direction; and looking toward the sunset may be seen the top of the Carolina Hotel at Pinehurst thirteen miles away. Nowhere else in the State of North Carolina could such a wonderful natural situation have been found on which to locate an institution devised and undertaken for the rebuilding of patients suffering from such a chronic and depressing disease as tuberculosis.

When we first commenced the practice of medicine more than twenty years ago the dictum prevailing everywhere, except possibly at Saranac and a few other forward-looking places, was that for a physician to tell a patient that he had tuberculosis meant nothing short of a sentence to death. Here at the State Sanatorium more than three hundred patients are now being treated, most of whom are being gradually brought back to life and health, and strength and hope. The dominant note there is cheerfulness, encouragement, and enthusiasm even, which every patient has, from the littlest child patient in the new Children’s Hospital to the most hopeless convict over in the prison division. The doctrine that has been preached throughout the length and breadth of the State since the institution was established, is that the disease must be discovered in its incipency and that rest, rest, rest, together with scientific medical care and diet, means a promise of recovery instead of a sentence to death.

The new Children’s Hospital in its planning, its erection, its setting, and in its conduct is well nigh perfect. About one hundred little children patients with their supervising nurses were as busy with their supper as a humming bird in a rosebush in August. Every one of them radiated happiness and good cheer. The decorations of the walls and even the very globes enclosing the electric lamps would delight the heart of an Uncle Remus. When the lights are turned on and the bedtime stories are in order, the rabbits are almost skipping and hopping about the walls and on the globes. More than half the children were naked from the waist up, literally absorbing all the sunlight available in that wonderful locality from morning until night. The bath tubs are built up, and the lavatories are as clean as soap and scrubbing can make them. Bathing and attending to these children must be nothing short of a joy to fortunate nurses who have the jobs.

If some of the Rotarians and Kiwanians and so on about over the State, who are accustomed to having to listen occasionally to self constituted dietetic lecturers could only avail themselves of the privilege of a visit to the kitchen and the dining room of this institution, one look
would suffice for a whole lecture on dietetics.

The institution, of course, is provided with every known scientific facility available at the present time for the treatment of patients. The Roentgen ray machines, and all other scientific apparatus is not only present and used but manned by experts in their line.

The head and heart and hub of this whole wonderful institution resides in the person of its superintendent, Dr. P. P. McCain. Dr. McCain is not only the idol of every patient whose good luck, we are tempted to say, causes him to have to become a resident of that institution, not only that, but he is probably the most popular and beloved physician in the State of North Carolina today among the members of his own profession. He is all that a physician should be, all that an executive could be, it seems; and nothing that we know that a physician should not be. His smile, his humor, and his sympathetic encouragement is worth more toward starting a depressed, discouraged patient on the long climb back up the hill than all the medicine that was ever put in all the bottles ever made. Of course, Dr. McCain is surrounded with an able staff, both medical and nursing and otherwise.

It is a pleasure to note that some of the most successful and high standing pupil nurses in the institution at present were girls who went there as patients, followed the cure there, and are now taking the training and standing well in their classes. The good that such nurses can do in disseminating correct information in different sections of the State after they graduate and leave there is incalculable.

Just a few days before our visit we noted in the daily papers that the health officer of Lenoir County had taken a group of citizens of that county on a visit to the Sanatorium, in order that they might learn first hand of what is being done at that institution. We wish to commend this plan to every other health officer in the State of North Carolina, and hope within the year that all of them will avail themselves of this privilege.

YOU AND YOUR GROCERY-MAN

We often wonder how much real downright results have been obtained through the agitation during the last few years for cleaner grocery stores, markets, etc., where foods are handled. There has undoubtedly been great improvement and a large majority of grocers are to be commended for their efforts in protecting their food products offered for sale, from dust and dirt and disease germs. However, there is still room for improvement in many stores. Not long ago we noticed in passing one of the largely patronized chain groceries that a large pile of vegetables, including turnips and collards, were piled up on the floor in one part of the store where, of course, it was very easy to contaminate the food with disease germs on the feet of customers. Colon bacilli are very easily transmitted in this way, as the colon bacilli are present in most soils and can easily be carried on the feet of people walking about.

Some of the items you might interest yourself about and through kindly suggestions from you to your grocer result in improvement and safety in the method of handling the foods, may be enumerated as follows: As stated above, vegetables and fruits should be carefully concealed from dirt and dust about on the floors. All crackers and cakes that are not sold in sealed packages should be carefully concealed and not exposed to handling or to dust and dirt. Such products as cheese and butter should be kept in glass cases where light is easily admitted. Such items as dried fruit, prunes, figs, dates, peaches, apples, and so on should not have the covers removed from the boxes and exposed for days at a time uncovered, therefore absorbing dirt and dust. Such things should be kept under glass covers when exposed in store windows. The floors of the grocery stores should be kept clean and properly oiled, and certainly no dogs or cats should be allowed to come in contact with the fruits and vegetables exposed for sale. Meats and meat products should be kept scrupulously clean and should be kept under proper degree of cold at all times. It is hardly necessary to say that milk offered for sale should be only in sealed bottles. A little friendly co-operation between the customers and the retailer will often bring satisfactory results all round, making for the better protection of everybody concerned.
IRREGULAR SCHOOL ATTENDANCE

A Survey Made by National Bureau of Education Indicates
Tenant Farmers' Children Lose More Time from School
on Account of Illness Than Other Children

The United States Bureau of Education sometime ago completed a study in two of Tennessee's greatest counties—namely, Shelby County and Rutherford County, Tennessee—concerning the attendance record of children in the country schools. They found that the children of tenant farmers were absent from school several days more during the year than the children of the farmer who owns his farm. In fact, the girls of tenant farmers, the study indicates, are in the habit of losing more than twice as many days from school as the girls of farm owners in the same counties. The investigators found also in their study, which was made to determine the causes of such absences from school in the rural sections, that the chief causes were personal sickness of the pupils and on account of work necessary to be done in or about the tenant farmers' home.

This is a subject that should lie very close to the heart and conscience of the people of North Carolina. The State Board of Health has known in a general way for many years, through surveys and investigation from one end of this State to the other, made by nurses and other representatives of the Board of Health and of the State School Department, that the average in health of the children of tenant farmers, judging from every known form of physical standard is below the average in health of the children of farm owners. We have known also that absences from school were more serious on the part of the tenant farmers' children than other children in the community.

We are glad that the United States Bureau of Education has made this study and announced these figures, because they give official emphasis to the accuracy of such information. The question for us to decide in this State is, What, if anything, is to be done about it. For one thing, if the tenant farmer could be domiciled for a longer period of occupation on individual farms and could therefore be relieved of the necessity of frequent moving from one farm to another in the middle of the winter, this absence could be cut considerably. Such tenants could then be encouraged to have cows and gardens; and children could get more fruits and vegetables and more milk, and their individual health would be improved and the result would be less debilitating sickness on the part of the children themselves and of their immediate family, either of which necessitates the children, especially the older girls, remaining away from school for a great deal of time at intervals during the school year. Primarily it is a responsibility of farm owners acting in cooperation with the schools and health workers in each county and community, and may well require concerted efforts all up and down the line.

FOODS AND PHYSIC

In a lecture on this subject given at the Mayo Foundation in Rochester, Sir John Bland-Sutton called attention to the source of the vitamin A that exists in milk and in cod liver oil. The original source of the vitamin is green plants. The cow is like a machine for turning grass into milk, and she gets from the grass not only the milk but also the vitamin.

The vitamin in the cod liver oil is obtained in a more roundabout way. In the sea there is plenty of green seaweed and small green plants known as algae. Small creatures that feed on seaweed and algae are eaten by squid and molluscs, and these in turn are eaten by fish, especially codfish. Milk is obtained from the pastures of the land by the aid of cows, and cod liver oil from the pastures of the sea by aid of cod-fish. Children get vitamin A from milk and cod liver oil. It is now the custom to give cows cod liver oil in winter to increase the amount of cream and vitamin. Children do not like cod liver oil but cows do like it. Children love cream. "Therefore," says Sir John Bland-Sutton, "give the cows cod liver oil and give the children cream."—Good Health.
For the last two years the Health Department has had in operation a system whose purpose is to enlist the active practical co-operation of each of our schools toward raising the standard of school sanitation, up-keep of buildings and the prevention of contagious diseases.

The system has worked successfully. The co-operation of teachers and pupils has brought results. We look forward to another year as one of further progress.

This next year the Departments of Health and of Education are to be more closely linked. The Health Department has been asked to take over (at a saving of $900 to the School Board) the supervision of physical education in all county schools; and the superintendent of schools is arranging in the curriculum of every grade a definite time for the teaching of personal hygiene and community health. This insures the active and directed assistance of school personnel in promoting public health. It is a new departure in public health measures, a pioneer movement as you might say.

We cannot look for perfect results the first year but we expect this step to define and draw attention to a serious lack in our educational system. North Carolina teachers receive no training in the sanitary management of their schools or in the comfort and health of their charges. Summer schools offer no training. Teacher's colleges have no such courses in the curriculum.

Physiology and hygiene is taught in some cases, but the required text books are from seven to 12 years out of date and lay stress upon the structure of the body rather than answering problems of child management.

Numbers of teachers, of other counties as well as Craven, have come to me for answers to community health questions which have come up at their schools.

“How can I get playground equipment made?”

“What should I do in a case of injury on the playground so as to best care for the pupil and at the same time cause least trouble to physician, parents and school board?”

“What is the best way to maintain proper temperature and ventilation in my room?”

“What are the principles of the vaccinations? I want to talk intelligently to parents asking me?”

“What sanitary equipment should the School Board give me?” These and many other questions come up continually.

The teachers want training. They are tired of struggling over memorizing the length of the duodenum, or the difference between the olfactory and the sciatic nerves, or what happens to hog meat in the stomach. They are asking for teaching that will help them in the management of their school rooms, that will help them to understand and assist in the work for better community health, that will help them to develop in their pupils health habits and the desire for more sanitary homes.

We hope to make this training available to them in our summer school next year. And we have visions of a future when this will be supplied by courses in other institutions for training teachers.—The New Bern Times.

TRAVELING MILK LABORATORY IN NEW MEXICO

A traveling milk laboratory lent to New Mexico by the American Child Health Association for two months last fall, made possible the first systematic study of the State's milk supply. Very little of the milk was found to be pasteurized, and there was wide variation in bacterial counts. The State Health Officer reports a strong sentiment in favor of continuing milk tests by means of a traveling laboratory maintained by the State, which would be especially useful in serving the many small towns which cannot afford to maintain laboratories of their own.—United States Daily.
"ROBERT IS TIRED ALL THE TIME"

The above phrase, or something like it, is very frequently heard by every family physician and every pediatrician in the land. The school physician hears a variation to the effect that "Robert is lazy."

Now, what is the real state of affairs when such a complaint is heard? In the place, when the mothers complains that a child is tired; that he is hard to awaken in the morning; that he sluggishly gets out of bed; has no appetite for breakfast; moves around in a tired and listless manner; and when he manifests little interest in his surroundings, if the condition is chronic, it may be well set down that there is something seriously wrong, either mentally or physically, with such a child.

When a teacher makes the statement that a child is lazy, the teacher is either careless, or ignorant of child character. No child is ever lazy. A universal characteristic of all normal children may be said to be action. A normal healthy child in good shape physically will bounce out of bed in the morning like a rubber ball, and he will seldom be still more than thirty seconds at a time until overcome by sleep in the evening, after he is forcibly put to bed, practically speaking.

From the ranks of such "tired" young children a large per cent of the recruits of the insane asylums and the various sanatoriums for this, that, and the other are obtained later on. Unless such children are fortunate enough to have parents, teachers, and physicians able to aid them, and to do it soon enough to make the assistance worth while, disasters too numerous to mention are likely to overtake them later on in life.

The first thing to be done for such children, of course, is to find out what is wrong; to ascertain whether the trouble is physical or whether it is mental. The parent and teacher should find out whether or not there are physical defects such as decayed teeth, diseased throats, defective eyesight, or other things needing correction. The food habits of the children should be carefully catalogued. Faulty food habits, such as eating at irregular times, between meals, too much sweets, not enough of a general diet, insufficient amount of milk or green foods, and, in short, the various things which contribute to the general condition known as faulty food habits should be corrected. If the child is addicted to too much play, on account of over-urging by its playmates, a rest period during each afternoon should be required. Habits of sleep are especially important. The child's bed should be comfortable. Its head should not be elevated too much. Cover should be light and warm. The room should be at a comfortable temperature with plenty of fresh air available, and numerous other items of importance concerning the health of such a child should be carefully observed. Such a child should be kept away from moving pictures except those that are pleasant and happy, without excitement. They should be the kind that show normal children playing in happy surroundings, the kind of pictures that the child can comprehend by being somewhat familiar with itself. An important item is to see that the parent or the teacher does not nag such a child. He should be let alone at his own pursuits and to play in his own way, quietly and without disturbance. He should not be told every other minute don't do this or don't do that. His interest should be aroused in literature suitable for his age, through which he may find absolute rest, pleasure, and relaxation, as well as quietly gaining information for himself.

Punishment for a child just because a teacher thinks he is lazy is unjust and cruel. It will result in making the child bitter and resentful, and simply makes a bad condition worse. One thing that should never be done is that he should not be compared in his school progress or in conduct to other children of the community or to more fortunate brothers and sisters. Nine times out of ten when such children strike their normal stride through having their handicaps, physical or mental, removed, they turn out to be the most successful pupils in the school, and generally happier in their associations and their life work when grown up than any other class of children.
Colds

We have felt it a conscientious duty for several years to have at least one essay during the winter on the subject of so-called “common colds.” We take pleasure this year in letting the editor of Charity and Children and the editor of the Greensboro Daily News write this essay for us. In the first place, they know just as much about the subject as we do and, in the second place, they write about any subject which attracts their interest in a great deal more fascinating style than it is possible for the editor of the Bulletin ever to hope to attain. So we hope everybody who is interested in the question of colds (and that should include the entire population) will read the editorial below quoted from the Greensboro Daily News in its issue of December 28, 1927, under the title of

“Quarantine of Conventions”

Charity and Children of Thomasville observes that the Daily News “every now and then makes pleasant prediction that the time will come when we will put a shotgun quarantine on every cold, just as we used to put on every case of small-pox, before the efficacy of vaccination against this disease was established.” For its part, Charity and Children hopes “that the doctors will beat the shotgun troters to it, and that some new Jenner will do for the cold what the older one did for the plague that terrified our fathers. But in the meantime, night shy of the mildest sniffle, if you value your health.” It is, our Thomasville contemporary says, already established that a so-called “cold” may in reality be “almost anything, including some of the most malignant diseases known. Therefore, the man who goes into a crowded room, sniffing and sneezing may in all literalness be scattering death everywhere. The woman who sends to school a sniffling child may be sowing the seeds of a dreadful epidemic. And even if she is sowing the seeds of nothing worse than epidemic of colds, that is bad enough in all conscience. At best it means miserable nights not for the children affected only but also for their parents and quite likely for most of the doctors of the neighborhood.”

If and when science finds a serum of a combination of serum treatments that will afford sure prophylaxis against all this range of maladies, or a specific or specifics for them all (so far, in the history of medicine one specific drug has been discovered for one disease), then everybody will be happy and nearly everybody will be well most of the time. Meanwhile there is nothing to be done except to meet the situation in the meager light of what knowledge the doctors have been able to gain.

A quarantine is coming along that will work better than the shotgun. Outside a minority of medical cultists, no more than a fringe, the laymen, who string along with the doctors of medicine, accept the medical theory that the “common respiratory infections” all or many are caused by little vegetables or animals—the layman does not discriminate meticulously amongst microscopic creatures, being apt to think of them all as bugs. The layman understands that the cough of a person in infectious condition scatters infection, that his conversation scatters it at a lesser range, that to be confined, crowded within walls along with an infected person is to risk getting heavy dosage of the infection. The layman understands that there are many of these bugs all about all the time, that he usually has some of them in his system, that they do no harm except in certain conditions which are, or used to be, referred to by the doctors as “lowered resistance.” The layman bothers little with hard questions such as, why is a heavy barrage of active germs more dangerous than the live germs that everybody is supposed to carry around are? The layman understands that the doctor does not claim to know a great deal about these infections of the respiratory tract; but he understands that, by common consent, a person who is coughing and wheezing is scattering disease around wherever he is.

And so we have a gradually forming convention that to go into company, to church, to the theater, to mingle with people in business, in certain fairly well defined conditions of respiratory infection, is an anti-social act. If this embryonic convention continues to grow it will in time attend to the quarantine business. Many a person now feels out of place, his discomfort added to, if he having a bad cold mingles with his kind. The same person when well is likely to resent the presence of another who is plainly sick with something in the range from common cold to pneumonia. The schools are be-
ABUSE OF THE WORD SANITARY

To one who looks about and observes now-a-days it would appear that the old adage "give a dog a bad name and you might as well kill it" is coming to be reversed in the giving of a good name to almost every conceivable kind of enterprise—good, bad, and indifferent.

For several years we have become more and more impressed with a tendency to abuse the word "sanitary." Fowler's Dictionary of Modern English Usage states that "sanitarian" means "a believer in sanitation." Sanitation means "the securing of wholesomeness," and sanitary is defined as "conducive to wholesomeness." Therefore an intelligent person passing along the street and observing the name of a business to be the sanitary grocery would naturally infer that the groceries sold in this particular store were conducive to wholesomeness. People in the business world, being wide-awake and having to hustle for trade, are not slow to adopt any measure that will help business along over one's competitors. As a result, practically every large town has its full quota of "sanitary" establishments. Some of the more common places may be enumerated, such as "sanitary market," "sanitary grocery," "sanitary cafe," "sanitary laundry," "sanitary barber shop," "sanitary drinking stand," and one friend even states that he ran across a "sanitary garage" not long ago.

The purpose of calling attention to this custom is to suggest to the patrons of such institutions that the designation of the word "sanitary" as the principal name of any business means just exactly nothing at all. If the business is not sanitary and not conducted in a manner conducive to wholesomeness and cleanliness, then it is a serious abuse of a word which should always mean exactly what it implies. If business of any kind uses this word as a name of its establishment, then it should live up to its name in every detail, or it is guilty of deception, and should not deserve the patronage of the public.

MANY DRUGS HAVE BEEN EXPLOITED AS CURES FOR THE DREAD TUBERCULOSIS

"Almost every drug in pharmacopoeia has at one time or another been exploited as a cure for tuberculosis," Dr. P. P. McCain, Superintendent of The North Carolina Sanatorium, said speaking of fake tuberculosis cures.

"No drug has yet been found that has any curative action on tuberculosis in the lungs themselves. For there is no specific cure for tuberculosis. Many of these drug cures and other fakes that have been claimed cures for tuberculosis have been put forward by men who were sincere in thinking they were cures, usually ignorant of any real knowledge of the disease or its cure. But the great majority of them have been launched by men whose only aim was to make money from the 'cures.'

"Probably the most talked of remedy, which was claimed to be a cure and was an utter failure was the Friedmann cure of 1913. There have been literally thousands of tuberculosis 'cures' up on the market by ignorant or unscrupulous-scheming quacks, who needed to profit from sufferers of consumption.

"None of these 'cures' have been of any avail in the fight against tuberculosis. In fact they have not only taken the money of consumptives, but have added materially to the sum total of deaths from the disease. Many people have depended upon medicine of quacks to 'cure' them until their one hope of recovery by rest, food and fresh air, had disappeared.

"The one 'cure' for tuberculosis is rest given in time under a good doctor. Complete rest at first, then modified by degrees until the patient is able to resume a normal life again.

"Most of the promoters of fake remedies today have gotten on to the scheme of rest, and advise that rest be taken along with their medicine. It is easy, too easy for the patient to believe that the remedy is producing whatever improvement is felt and to attribute the improvement to the drug, rather than to the rest, which is really responsible."—Sanatorium Sun.
TWO SERMONS

On Sunday morning, January 1, 1928, two sermons were preached in two Raleigh churches of different denominations, but within almost a stone's throw of each other. The reports of what the two preachers talked about appeared in the local morning paper the day afterward. Both of these ministers are well known, highly educated, consecrated men. Both are successful pastors and have a splendid reputation.

One of these preachers in his sermon deplored the tendency to materialism as exemplified in the placing of too much attention to the body and material pleasures. He placed, according to the newspaper reports, a spiritual value on everything to the exclusion of things temporal and material. He holds, perhaps unconsciously, to the philosophy of Marcus Aurelius who wrote that "The things which are much valued in life are empty and rotten and trifling, and like little dogs biting one another, and little children quarreling, laughing, and then straightway weeping." This preacher would get away from such things entirely, and with Marcus soar "up to Olympus from the widespread earth."

The other preacher in the nearby church wished his congregation health and happiness for the new year in proportion to the soul's wealth. He would have his congregation also to get away from the idea of prosperity in terms of dollars and cents as the principal objective for the new year; but at the same time he explained fully to his congregation that if the soul was to prosper they must each have the wealth of health as the basis for right living and efficient work in their vocations and occupations during the year.

In our opinion the last mentioned preacher has the proper conception of spiritual advancement and happiness and well-being of the people of this earth. An all-material conception of things means a return to conditions many times worse than savagery. An all-spiritual ideal means asceticism and stoicism and faith without works and consequent chaos. It has been our observation that people who care little for their bodies and who fail to observe conventional customs in morals and every-day living care still less for their soul's prosperity. One of the reasons why the common people heard Jesus gladly was because he understood their sufferings, physical, mental, political, economic and spiritual and what is of much more importance sympathized with them and helped them.

"He hath done all things well; he maketh even the deaf to hear, and the dumb to speak."
TESTING FOR CARBON MONOXIDE

Physicians and others are familiar with the fact that it is detrimental to health to work in a closed garage or other automobile repair shop that is poorly ventilated, on account of the danger from carbon monoxide which exists in exhaust gases from all internal combustion engines. Frequently the exposure to these gases in minute quantities over a long period of time, say eight or ten hours every day, will eventually result in serious impairment to the health of men working under such conditions. Like everything else scientific, guess work is not tolerable in dealing with the situation. In other words, to simply know that a certain degree of contamination of the atmosphere is dangerous is not sufficient; it is necessary to know the exact degree of contamination beyond which it is not safe to work.

For a long time the people of North Carolina have been familiar with the process of water analysis in which samples of drinking water are collected about over the state and sent to the State Laboratory of Hygiene for analysis, in order to show the degree of bacteria pollution. In a recent issue of the Industrial Hygiene Bulletin published by the New York State Department of Labor a writer describes very definitely a new process of chemical testing in that State through which samples of gas or air are obtained in different parts of any industrial plant and sent to the headquarters of the department at Albany for analysis. In this manner an almost exact estimate can be made of the degree of contamination existing in any garage or work shop.

As there are probably several thousand workmen engaged in the different automobile repair shops and plants about over North Carolina all the time, this item should be of especial interest to the workers as well as their employees. We will not undertake to give the technical description of the methods employed as that is a matter for chemical engineers; but we would like to suggest to every big department employing a number of men anywhere in the State in which the ventilation is not sufficient in cold weather, that their engineers look into this matter in order to protect the health of the workmen.

The writer in the New York Bulletin just quoted in the beginning of his article has the following interesting comment:

"The carbon monoxide hazard in any enclosed, ill-ventilated space into which the exhaust gases from internal combustion engines are being discharged is becoming more and more widely recognized as a danger that demands careful attention from architects in the design of new buildings and from ventilating engineers in the correction of old buildings.

"The managers of storage rooms and workshops where there is a carbon monoxide hazard usually realize that many deaths occur every year through inhaling high concentrations of carbon monoxide in motor exhaust gases, and that a great deal of ill-health is caused by exposure to lower concentrations of carbon monoxide.

"But where is the border-line? When does the gas become dangerous? It is the common experience of almost everybody that the amount of motor exhaust gas that is discharged in a few minutes from a motor in operation in a large room can be tolerated with apparently no ill-effects.

"Scientists who have conducted careful experiments on the physiological effects of carbon monoxide have determined the limiting concentrations beyond which the gas should not be tolerated. If the duration of exposure is one hour or less it is believed that as much as four parts carbon monoxide per 10,000 parts of air will have no ill-effect. If a person is exposed to the gas during a whole working day the best qualified investigators recommend that there should be no more than one part carbon monoxide per 10,000 parts of air. If there is any indication of a special susceptibility to the gas, the limit should be reduced to one-half part per 10,000, as specified by the New York Labor Law.

"Managers would like to know how their own storage and workrooms compare with these standards. Consequently an investigation has been made by the Bureau of Industrial Hygiene of the New York State Department of Labor. The atmosphere in each storage and workroom was tested for carbon monoxide and the construction characteristics noted in their relation to ventilation requirements."

NEW MENACE TO HEALTH

Aunt Prudence—"Keep away from the loud-speaker, Denny. The announcer sounds as if he had a cold."—Punch.
SMOKE STUDIES

Smoke in the atmosphere, especially when combined with mist to produce fog, brings about a very lowering of the daylight. At the present time a great loss of light results in large cities from the effect of smoke. A study of the decrease of light by smoke, now being made by the United States Public Health Service in New York City, at the lower end of Manhattan Island where the air is very smoky, showed, an average loss of daylight due to smoke in January of 1927, on sunny days, of 42 per cent at eight o'clock in the morning, and of 18 per cent at noon. These amounts of loss of daylight decreased, as the year advanced, to 33 per cent at eight a.m., and six per cent at noon, in June. These figures are for clear sunny days; for foggy days, the loss is much greater. The loss of light due to smoke in the atmosphere is greatest early in the morning or late in the afternoon, and least at noon. As would be expected, the loss of light is greater in the winter than in the summer. The figures given show the great importance of getting rid of smoke in our great cities. Loss of daylight or the light rays, is not the only evil resulting from the presence of smoke in the atmosphere; smoke also cuts out to a much greater extent the ultra-violet rays which are so necessary for good health.

The amount of light reaching us at different times of the day, at different times of the year, and under different conditions of weather is of interest. Illumination is measured in a unit called the foot-candle, one foot-candle being the illumination on a surface at a distance of one foot from a standard candle. Records of daylight in Washington, D.C., have been made since July, 1924, by the United States Public Health Service. These records show that at noon on a bright day in midsummer the illumination seldom exceeds ten thousand foot-candles. In midwinter at noon on a bright day it seldom exceeds 3,500 foot-candles. The difference in illumination on sunny and cloudy days in illustrated by the average illumination for such days in December, 1924, and in June, 1925. In December the average illumination on cloudy days was found to be about 23 per cent of that on sunny days. In June this ratio was about 26 per cent. Great variations in daylight take place when small clouds pass over the face of the sun on a clear day. In such cases the light may fall from 9,000, or more, foot-candles to 3,000, or less, in one minute's time, and return to the original amount during the succeeding minute.

Large increases of light may be produced by the reflection of light from banks of white clouds to the north of the sun, and very great decreases by the heavy clouds of thunderstorms.

Sunlight is of great interest and importance, since work in the office, shop, school-room or on the farm is performed under it; and the presentation of eyesight, the general health, and the prevention of accidents, throughout childhood and adult life, are largely dependent upon having plenty of sunlight both inside and outside the buildings in which to live and work—United States Public Health Service.

Ten months old, twenty pounds; and out for more Wake county sunshine.
CROSSING THE ROAD

The other day a college professor up and said that a chicken crossed the road simply because he wanted to get to the other side, but that this could not always be given as a reason for a human crossing the road. He went on to say that there were often motives in the subconscious mind of a person which caused him to cross from one side of the street to another without any apparent reason. The professor gave as an example the instance of a woman of his acquaintance who had been frightened by a dog at one time years ago on a certain side of a street and thereafter in passing, even though the danger for any attack from a dog had long disappeared, this woman would unconsciously cross to the other side of the street in walking by that particular locality. On being asked one day for her reason the woman stated that she crossed to the shady side. The professor went on to point out that that was a very poor reason in winter when there was no shade necessary and none available.

All of these observations are interesting because of their bearing on the safety of traffic in the streets and roads which are constantly becoming more a menace to life and limb.

We have heard the statement made on scientific authority, and we ourselves have observed the truth of the statement, that the present generation of dogs have learned to avoid the danger of automobile traffic. Fifteen years ago in short trips about over the country almost anywhere was revealed the carcass of one or more dead dogs in the middle of the road, killed by venturing in front of an automobile. It is very seldom now that anything like that is seen. Some of the psychologists have pointed out that the present generation of dogs represents possibly the fifth or sixth since the beginning of the common use of automobiles, and therefore during these years the dogs have learned from experience to avoid the menace of automobile traffic. We have not seen it stated whether this is due to heredity or to the ability to acquire safety characteristics.

In further elaboration of this point a news writer in the Kinston Free Press quotes a very observing citizen of that town to the effect that now-a-days chickens seldom cross the road. The Kinston citizen, as quoted in the Free Press, "has reached the conclusion that chickens are much more intelligent now than ten years ago, when automobile traffic was light." The writer goes on to say that the citizen quoted "declared he had observed a marked change in rural fowl's conduct. Seldom does one see a hen killed by an auto in this day and time," he said. A few years ago the roads were littered with dead fowls. The chickens have learned to keep out of cars' way. The hen of today perks up at the approach of an automobile, gives the thing a casual glance to see that it is in the traffic lane and not off the road on her side, and then goes ahead with her scratching. It used to be the case that she squawked when a car drove into sight a quarter of a mile away, ran safely across the road and then, changing her mind, doubled back, as likely as not meeting death under the wheels. The automobile along with some evils and some blessings has given us a more intelligent breed of fowls.

The foregoing is undoubtedly true and can be verified by travelers anywhere, any day, both with reference to chickens and to dogs. Some of us can even see a beginning tendency on the part of young children to beware the dangers of a speeding automobile. If people learn as rapidly as chickens and dogs in the ways of protecting themselves from the speeding juggernauts, it is probable that along about 1950 the death and accident list among pedestrians on the streets and roads will begin to materially decline. It is possible that before that time, however, everybody will be traveling in aeroplanes and new kinds of dangers and menaces to traffic may be to learn. Who knows?

CORN FIELD THERAPEUTICS

Recently a number of medical writers have been calling attention to the slowness by which the masses of people absorb information on special subjects. Propagandists and reformers have always been impatient with the failure of the proletariat to grasp their ideas until long after said propagandists and reformers have gone on to propagandizing and reforming other matters.

We are prompted in writing this editorial by some of these recent medical writers who recall the opinion expressed and which was representative of the opinion held by some of the leading surgeons and physicians of twenty-five years ago. About that time one of the country's
leading surgeons put himself on record, in writing, in the following statement:

"It is a good rule to give a purge when tempted to give opium in obscure abdominal pain. The purge clears and cleans; the opium obscures and obstructs."

In short, the foregoing statement represented the attitude of the majority of the medical profession of the United States at one period of time. Today no careful physician would think of advising a purgative as a remedy for abdominal pain unless he was absolutely sure of the cause of the pain.

The dictum of the surgeon just quoted has within the last four or five years become the prevailing opinion of the laity, and with the consequence that physicians now find that there is widespread belief among the masses of the people that large doses of laxatives and sometimes excessive purgation constitute a remedy par excellence for nearly all abdominal pain. This is a dangerous habit; and when a person experiences pain in the abdomen he should consult a most careful physician and, above all, refrain from taking any kind of purgative medicine until prescribed by his physician.

We do not have at hand any compilation of recent surgical statistics, but we are quite sure that such a compilation will show that the mortality from appendicitis is not being reduced; but on the other hand that it is increasing some from year to year. The records in surgical hospitals will easily establish the fact that perforated appendix and peritonitis occur nearly always only in patients where purgatives have previously been given. This dangerous procedure is generally the result of self medication on the part of the patient or of his immediate family. Therefore, purgation in a dangerous case of appendicitis is one of the worst things that could be done for a patient. Such self medication or household "doctoring" is on a par with the practice of the corn field lawyer in legal matters. In both cases it generally spells disaster to the victim.

In matters of this kind the layman gets his information largely from his family physician. Therefore, every physician should not hesitate to disseminate the knowledge of this danger among his patients. The physician should make a special point to emphasize to the mothers of young children to refrain from giving their helpless little ones drastic remedies of any kind until after such things are prescribed, if necessary and safe, by the family physician.
HIGH HEEL SHOES IMPAIR HEALTH

Something About Different Kinds of Specialist

It is undoubtedly a fact that the world is more cursed today on account of a super-abundance of specialists setting up as authorities on every conceivable subject than it has been since the days of Egyptian grandeur thirty-five hundred years ago. Medical historians have pointed out that in the glorious days of ancient Egypt's power that specialists were plentiful and active in the treatment of every kind of human ailment. It is said that it was not uncommon for a patient, provided he was rich enough, to have fifteen or twenty specialists in attendance upon him at the same time for almost any ordinary trivial ailment.

Today outside the ranks of the legitimate specialties of medicine and dentistry and the learned professions generally we have specialists on every other subject imaginable. In fact, we could no doubt make the old Egyptians thoroughly ashamed of themselves and make them wonder at their moderation. A grocer's clerk can come along announcing himself as an "expert dietician," and we behold bankers, captains of finance and big business, lawyers and editors, preachers and politicians sitting at his feet literally drinking in the words of wisdom which he proclaims in a miraculous style. It does not seem to matter much that he tells them that they cannot get natural iodine by consuming sea food such as crabs and shrimp, when the foremost authorities in nutrition in the world tell them that they can get it in that way and that it is one of the proper ways to get it. He tells them that they must eat fruit and vegetables, but that it would never do to swallow such combinations as butter beans and apple pie at the same meal. He tells them with a straight face, and they believe it, most of them at least, that frequently combination of foods such as served in hotels and at home cause "the heart to curl up and die." Naturally his hearers are horrified and resolve to be careful in the future that they take their apples and Irish potatoes, peeling and all, regardless of dirt, hookworm eggs, or what not. By all means the heart must not curl up and die. He tells them that cancer is caused by "wrong combination of foods," and that heart diseases is caused by people not exercising the proper "joy in eating," and so on ad nauseam.

It matters not that all of this stuff is absolutely rot, that it is simply the product of a slick talker enthusiastically running his tongue before willing hearers for the price he gets out of it. The honest scientist who is conservative and who would confine himself to facts that are understood and proved and who is careful in his statement would find in a hurry that the club would go to sleep on him or slip out and leave him talking to vacant chairs. But when the so-called self-constituted "health expert" or "food specialist" stands up and knocks the scientists, everybody is wide awake and cheering. As time passes and the victims of such specialists gradually wake up to the fact that they have been bunced they resolve to pay a little less attention in the future to any kind of specialists, and thus the specialists who are legitimate and qualified fail to make the impression on the public mind that they would otherwise be able to do to the lasting benefit of the public.

A Specialist's Opinion of High Heel Shoes

The above remarks were brought to mind by a little story carried in the associated press sometime ago from a foot specialist of Boston. This specialist insists that if women persist in wearing high heels, a generation with archless feet will result. The associated press story further states, as declared by the aforementioned specialist, that "the high heel shoes worn by women today," he declares, "cause permanent elongation of the feet, and as women's feet become longer they loose the arches that give the feet flexibility and serve as shock absorbers."

That this prediction is undoubtedly true any intelligent layman or any physician can determine for himself by simply standing on the sidewalk of any city or town and watching the parade of women march by, ambulating along on these pin point heels which are now so common. If the woman happens to have normal weight, the misery is reflected in her face if she can be watched at a moment when she thinks she is unobserved. The effect on walking is the same as would be produced if a woman should try to walk barefoot down the street without touching her heels or her toes on the pavement and would simply be endeavoring to walk
on the balls of her feet. The strain is inordinate and is one that no woman can become accustomed to, no matter how much walking she does on such heels. It is a strain that inevitably will produce suffering from headaches, backaches, gynecological troubles, digestive disorders, kidney impairment, besides the long train of nervous disorders; all of which will spell trouble for the woman and her family. For formal dress on special occasions, when there is very little or no walking to do, a very little or no standing, and a minimum of dancing, this kind of shoe can be permissible and if so used would not result in any trouble. But used for every day wear, as so many women are now persisting in doing, it can only result in disaster to the health of most women persisting in the habit.

Bound Feet of Chinese
Most of us remember when we were small children reading in the geographies and histories in the schools of our youth that we were horrified when the teacher would always become eloquent in the chapter telling us about the custom of the Chinese women having their feet bound in wood blocks when little girls so that the feet could not grow. We were properly horrified, and most of us will certainly never forget the shock when we first heard about such a custom. The Chinese custom probably had its origin in the demands of caste, but the custom of the modern woman in wearing shoes with such tiny high heels is simply a result of a mandate of fashion. Let us hope, for the sake of the coming generation, that this one freak of fashion's mandates will soon go to join the vogue of wasp waists, the trailing skirt, the bustle, and other such terrors of bygone days.

INSTITUTE ON PARENTAL EDUCATION
"The purpose of the institute on Parental Education, which is to be held in Raleigh, Tuesday, Wednesday and Thursday, February 14th, 15th and 16th, is to bring together parents and workers in the various fields with the hope that from this interchange of ideas there may result a better understanding of the problems of mutual interest, that bringing to this institute experts of national reputation in their respective fields may add to knowledge of how to cope with these perplexing problems," says T. E. Browne, Chairman of the Steering Committee on Parental Education. Furthermore, this institute may result in a definite set-up in the State which, working in co-operation with the several organized agencies, may greatly accentuate the State's program for health education and character development. The naming of this meeting "An Institute on Parental Education" is in recognition of the crucial position the parent occupies in any program concerned with the development of the child. The school, the health agencies and the social organizations are comparatively helpless unless the parent recognizes that there are problems to solve, and is willing to co-operate for the good of the individual child and for the betterment of society as a whole.

The growing interest on the part of North Carolina parents, in the problem of the whole child, and their recognition

Baby calf taking sun-bath in Swain County. It is said that observing the effects of sunshine on animals led to the discovery of the healing properties of the ultra-violet rays of sunlight.
that there is a store of information available which will contribute to their success in meeting the complex situations confronting them has led to this effort on the part of all the agencies which have been working in these respective fields to pool their efforts and unite their energies in a state wide Institute on "Parental Education." This Institute will center around child development from the physical, mental, social and spiritual standpoint.

The growing idea of education as that which has to do with the whole child from infancy to maturity, requiring the combined efforts of all the agencies interested in child development is one of the most encouraging facts connected with the program of public education. Public education cannot justify a program which concerns itself with the child's mental development alone. The objective is to help the individual child to "burgeon out all that there is within him," in order that society may be the richer by virtue of his membership. This being true it is of supreme importance that the individual taking his place in society as an earner and contributor may develop the strongest physical body possible. Therefore, all the agencies and institutions concerned must interest themselves in Health Education—the formation of proper health habits.

The success of this individual is largely determined by his ability to fit into social situations into which he is placed and make his contribution by co-operating with the local forces for social betterment. In order to do this the training of the child as a member of the social group, the family, the school group, the gang, etc., is of great importance, and to ignore the social development of the child may lead to tragic results.

The mental development of the child is generally conceded to be the responsibility of the school, and yet all concede that results in guiding the child into the forming of right habits, proper behavior under varying conditions, control of emotions, proper attainments at different age levels is far from accomplishment. This is a situation in which the parent occupies a strategic position because from infancy to adolescence the relation of the parent is the more intimate and comprehensive relation. Therefore, the parent must assume the major responsibility.

As a culmination of the whole program should be the moral and spiritual objective, the formation of high ideals, right attitudes and sound training in the determination of spiritual values. This is something that cannot be taught in the abstract, but must grow out of the child's reactions to definite, concrete situations. The home, the playground, the school, the Sunday School, all have a responsibility in seeing that the child has the proper guidance in these concrete situations that the environment may make a positive rather than a negative contribution to the development of correct ideals, and right attitudes.

**INFLUENZA AND SMALLPOX**

If influenza could be as perfectly controlled as smallpox is a wonderful thing would have been accomplished. Influenza, and its small brother, the common cold, are still terrible menaces to health.

Last any should speak flippantly of influenza it should be recalled that in some states in 1926 there were four times as many cases of it as in 1925 and more than three times as many deaths from that cause.

Speaking of smallpox it is rather discouraging to know that opponents of vaccination are getting noisy again and of course have some influence on the uninformed.

Dr. Charles V. Chapin, President of the American Public Health Association, who for years did such good work as a health officer at Providence calls attention to the fact that universal vaccination would wipe out the disease. It has been wiped out in all the European countries except England where vaccination laws are lax and where there were many cases last year. Vaccination did wipe it out in Detroit. It drove it from the Philippines, from Porto Rico, from Cuba. Then they forgot to keep up their vaccination, a new generation grew up and smallpox came again, but was again checked in the same way.

Dr. Chapin says further, "During the last 40 years I have cared for many cases of smallpox. I must have seen nearly 200 doctors, nurses, ward maids and others brought in contact with these patients. Only one attendant got smallpox. I, of course, intended every one to be vaccinated, but one nurse got by and she contracted smallpox after one short exposure. At the time I found one of my early cases of smallpox, I had a two-

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months-old baby at home. He was promptly vaccinated. Our 'pest house' was beautifully located on the shores of the bay and every afternoon when I drove out to see the patients I took my wife and baby with me, knowing I could do so without danger to them. Health officers and doctors who see smallpox believe in vaccination. They know it protects.

"Many persons are afraid of vaccination. They say it is dangerous. Dr. Leonard of our Board of Health has vaccinated almost exactly 150,000 persons in Providence: Not one has died, or lost a limb, or been inoculated with any other disease. Of course there are the three-day fever and enlarged glands in some cases. A small percentage also have had sore arms, usually because the visicle has been broken and they have neglected to show it to the doctor, though some have had trouble from wearing a shield, against which I have always advised.

"Vaccination, so far as serious danger is concerned, is safer than picking blueberries, or eating a saucer of ice cream. I have known of blood poisoning to result from a briar scratch and I have seen diphtheria result from infected ice cream. If health officers were not sure that vaccination is safe, we would not be fools enough to vaccinate ourselves and families every two or three years."—The Healthy Home.

LIVER AND ANEMIA

For many years it has been known that diet is an important factor in the treatment of anemia. More recently experimental work has been done by Whipple Rohscheit-Robbins showing clearly the value of certain foods especially liver, in accelerating blood regeneration as this is the most pressing problem in pernicious anemia where there is a rapid and abnormal destruction of red blood cells. This was a welcome announcement, and the importance of their work led others to investigate this problem with the result that in 1926 Minot and Murphy announced an effective diet cure for pernicious anemia built on a large proportion of liver. So widespread has this discovery become that liver rose in value over night, and we are told that some of the large city markets had difficulty in supplying the demands for this food.

Minot and Murphy announced the prompt and rapid increase in red blood cells and the marked increase in well being of forty-five patients with pernicious anemia who had been under their care and had received this new diet. These scientists made careful experiments with the diet in which liver is given the most prominent place. In fact, liver is found to be so superior to other foods also rich in iron, that it is considered necessary to include from 90 to 200 grains (or 2 to 6 ounces) of liver daily in the diet. They place in the daily diet in the order of importance, calves' beef and pig liver; kidneys; chicken liver; red muscle meat; devoid of fat; fruits (peaches, apricots, oranges, strawberries, grapefruit, blue berries, raisins, prunes) and vegetables cooked or raw (lettuce, spinach, asparagus, cabbage, carrots). Permitted also in the daily diet are one egg, milk (about one cup) tea, coffee, cocoa shells, potatoes, macaroni, toasted whole wheat bread, simple crackers, sugar (less than one ounce) relishes, poultry, fish and the shellfish. To be avoided are fats in excess of about two

Wondering when Santa Claus will come back again.
ounces daily (butter, cream, cheese, bacon and pork fat, salad oils and nuts.)

Announcement of this successful diet in the treatment of pernicious anemia has led many dietitians to experiment with liver dishes that will be palatable, appeal to the patient, and varied enough so the patient will not tire of it daily. "Beef liver pulp" has been recently suggested as a pleasing variation to the other forms of slightly cooked liver tissue. This is described by Minot and Murphy as "rare liver chopped as finely as possible in a meat grinder and strained through a fine sieve or muslin. This is diluted with water to suit the given patient, or diluted with orange or lemon juice and served cold. It may also be mixed with bouillon and served warm."

So far no definite explanation has been offered for the effectiveness of liver as a cure for pernicious anemia. But it is recalled that liver contains vitamins A, B and C being a rich source of the first. Whether the vitamins present in liver activate the regeneration of hemoglobin in some such way as vitamin D favors the deposition of calcium in the bones as a preventive of rickets, has not yet been determined.—Connecticut Weekly Health Bulletin.

SAFETY FIRST

Measles are running in epidemic proportion again in North Carolina, the monthly report on contagious diseases of the State Board of Health indicates—Raleigh News and Observer.

Bud, you take an' light a rag;  
Fer Charlie Hick's drugstore;  
Th' baby's asafetida bag  
Has spilled out where hit tore.  
So mind yore eye fer measles  
An' ef you meet a mump,  
You hustle home to mother.  
Ez fast ez you kin hump.  
Fer ef th' board's contagious,  
We'll stay at home a spell;  
When well th' board's outrageous  
When sick hit must be hell.  

O. J. in Greensboro News.

SCHOOL HEALTH DAY IN CASWELL

This picture represents a gathering of Negro school patrons in Caswell County as a result of work done in that County by a school nurse employed by the State Board of Health. The nurse was helped many ways by the County Health Officer and the other physicians of that County. This is a good cross section of the industrious law-abiding class of Negroes in Caswell County. No class of people in this State are more willing to co-operate in matters improving their living conditions than the Negroes living in the rural sections.
DOES IDLENESS SAVE ONE'S BRAINS?

We are all familiar with the old story that has been going the rounds possibly for a hundred years or more of the traveler asking the old idler by the roadside if he did anything but sit in his chair in the sunshine all day long. To which query the idler responded that he "sometimes set and thought and then he sometimes just set."

Now along comes an Associated Press dispatch from London placing a new valuation on "setting without thinking." The Associated Press quotes Bernard Shaw, the English Mencken who is chief critic of the world in general and of the United States in particular, to the effect that he saved his brains when a school boy by deliberate idleness. As quoted by the Associated Press, Shaw was asked by the woman editor of some school paper this question: "Did you find examinations a source of anxiety?" To which Mr. Shaw replied: "Not in the least. I instinctively saved my brains from destruction by absolute idleness."

It has been the impression of most of us that brains should be developed in the growing boy or girl by a sufficient amount of exercise through various methods of study, considerable discipline, and a diligent application of one's mind to the assigned subjects at school and elsewhere. After all, there may be some truth in Mr. Shaw's contention. Nearly all of us who had the privilege of attending high school or college can at once mentally record at least one or more students who distinguished themselves as leaders of the schools in scholarship. In the old days the high man or high woman who averaged from 90 to 100 on all school studies for the four-year period in college was graduated magna cum laude and throughout the day or days of commencement wore the halo of fame and so on.

In the particular class to which this writer had the privilege of belonging, and which through dogged perseverance a diploma was finally cajoled from the faculty, there were two particular students who readily come to mind. This pair probably tied for honors. Each one of them knew all there was to know. One of them never got through his examinations because he knew so much that he could not possibly write out all of his information in replies to the questions asked. The other one knew so much that he finished his examination and left the room always before the rest of us finished reading over the questions. He knew so much that he could instantly reply in a concise manner, covering the ground in a very few words. The two of them were the pride of the school. If college had lasted forever and if all of life consisted in the records made in college and college work, each one of these two brilliant boys could have properly been accorded the accolade of successful men; but alas, the big guns ceased to fire after commencement exercises were over and the principal proposition of meeting the problems of every day life were confronted. One of these students had worn himself out physically and died soon after graduation, the victim of a contagious disease. The other one, after twenty years, is said to have beat around the country, tried practice in a dozen locations (the world has failed to appreciate his brilliance), and at last accounts he had found his level as an assistant to a mediocre man in scholarship but whose common sense and active ability had procured more practice for himself than he could well handle.

Now, is it possible that these two men wore their brains out in making brilliant records in college whereas some of the pluggers and idlers in the same class have met with more or less reasonable success in after life? We pass the proposition along to practicing physicians, health officers, college professors, and teachers of the grade schools for further discussion and application, if there is anything to apply.

"My pa wants a dirty book," said the little boy to a librarian.
"A dirty book!"
"Yes, he says when it's dirty, it shows how it must be good, 'cause everybody has read it."—Onward.

A high-school boy asked a librarian for a copy of "Venus and Adonis." A search through books on physiology failed to reveal any such title. He was asked if he knew the author, and replied: "Why, Shakespeare, I guess." It was discovered he wanted "Venus and Adonis." This is comparable to the woman who wanted "She Sat in the Wood Box," which was found to be "The Satinwood Box."—Onward.
THE CARELESS COUGHING AND SPITTING OF THIS ONE AT HOME—

I'VE EXAMINED YOUR ENTIRE FAMILY AND FIND THAT THE CHILDREN ARE INFECTED WITH TUBERCULOSIS—

CAUSED THIS—
ABSORBING FEBRUARY SUNSHINE

Speaking of well babies and happy mothers, look at this picture.

The mother exhibited in the picture above was for several years a faithful and efficient School Nurse employed by the State Board of Health.

She writes that so far she has applied her theoretical knowledge with abundant success in the care of her baby. He is seven months old, weighs twenty-two pounds and has never been ill. She says she hopes and expects to write a book on the subject of "Well Babies and Happy Mothers."
EXECUTIVE STAFF
CHAS. O'H. LAUGHINGHOUSE, M.D., Secretary and State Health Officer.
ROBERT B. WILSON, Assistant to the Secretary.
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H. E. MILLER, C.E., Chief of Bureau of Engineering and Inspection.
F. M. REGISTER, M.D., Director Bureau of Vital Statistics.
H. A. TAYLOR, M.D., State Epidemiologist.
GEORGE COLLINS, M.D., Director Bureau of Maternity and Infancy.
C. N. SISK, M.D., Director of County Health Work.

FREE HEALTH LITERATURE
The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

- Adenoids and Tonsils
- Cancer
- Catarrh
- Care of the Baby
- Constipation
- Colds
- Clean-up Placards
- Chickenpox
- Diphtheria
- Don't Spit Placards
- Eyes
- Flu
- Fly Placards
- German Measles
- Hookworm Disease
- Infantile Paralysis
- Indigestion
- Influenza
- Malaria
- Measles
- Pellagra
- Public Health Laws
- Prenatal Care
- Sanitary Privies
- Scarlet Fever
- Smallpox
- Teeth
- Tuberculosis
- Tuberculosis Placards
- Typhoid Fever
- Typhoid Placards
- Venereal Diseases
- Water Supplies
- Whooping Cough

FOR EXPECTANT MOTHERS
The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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True constipation is a disturbance of normal intestinal function. The usual condition characterized by insufficient elimination of food residue, or abnormal delay in the elimination of the lower intestinal contents about which most patients complain, is properly termed "obstipation" by Doctor Holland of the Cornell Medical College. Doctor Holland has made it a practice for many years to give test meals to great numbers of patients he has seen and who complained of constipation. He says that these meals almost invariably went through the twenty-five to thirty feet of intestinal tract on time to the minute, reaching the lower bowel more promptly than a railroad train making its schedules. All the valves of the intestinal tract are automatic with the exception of the sphincter of the anus which, although partly automatic, is chiefly voluntary, or under man's control. So, when actual constipation is present it is generally due to lack of tone in the intestinal tract or to the presence of organic disease. The more common trouble "obstipation" which most chronic sufferers know as constipation is failure of the rectum to perform its expected functions. There is considerable difference of opinion as to what constitutes normal bowel activity. Some medical authorities consider that when evacuation is delayed for more than seventy-two hours that fact constitutes an abnormal and pathological condition. Others of equal right to an opinion would shorten or lengthen the period. The fact is that food, habits of a lifetime, occupation, and many other things enter into the equation. The person who consumes large quantities of roughage food will naturally require more frequent evacuation of the residue than one who subsists largely on concentrated food which is almost wholly digested and absorbed without residue. A child whose parents soon after its birth commences the use of suppositories, castor oil, enemas, and various other modes of tinkering, is apt to grow up into an adult with a well established constipation phobia. Considerable progress in the attitude toward patients complaining of constipation was achieved when physiologists and therapeutists began to realize that the trouble is due to functional causes affecting chiefly the large bowel; and not to mechanical obstacles on the principle of clogged plumbing. That realization put out of business one or two schools of quacks. Another great forward step is now being achieved in the slow, gradual but eventually sure elimination of the auto-intoxication idea as a factor of first importance in the consideration of constipation. The lower bowel is teeming with germs as a normal condition, hence the conclusion was illogically, but naturally, reached that any interference or delay in so-called normal bowel discharge would result in absorption into the blood in some way some vague poisons which would at once cause characteristic symptoms. It has remained for a few modern physiologists to point out that if such results followed constipation as a general rule the simple evacuation of the bowels by pill or enema would not and could not immediately bring relief as so widely advertised by those who have some remedy to sell for constipation sufferers, because it would be impossible for the blood to so quickly rid itself of the "poi-
Bacteriologists have long ago pointed out that a large portion of bowel discharge is composed of the dead bodies of beneficent germs utilized by nature in the normal, natural process of digestion. This fact has been fully appreciated by the proprietary medicine manufacturer who has also visualized in advertisements that the food mass moves slowly and sluggishly along the entire length of the intestinal tract in a person suffering from constipation; and that poisons causing vertigo, headaches and so on are being extracted by the blood at every kink on the route. If such a condition were possible then surely constipation would kill quicker than pneumonia or typhoid fever. The evils of constipation have been a topic for volumes, not only in proprietary medicine advertisements, but by medical writers and health departments. The condition has been described as one of mankind’s worst afflictions. Such opinion has been formed on account of a lack of knowledge of physiology or a failure to avail ourselves of such knowledge as already existed. Sound common-sense and solid scientific knowledge will sooner or later prevail in this as in all other matters.

Causes of Constipation

The causes of constipation are many. As stated in the foregoing chapter, actual constipation is comparatively rare, because generally the bowels function perfectly down to the lower part of the colon. In patients where such is not the case real constipation may be present and is usually caused by lack of tone, which prevents the normal peristaltic action of the intestines. Organic disease of the spinal cord or nerves may be responsible. The causes of ordinary constipation may be said to reside in the numerous things which contribute to the loss of sensibility of the lower bowel. In prehistoric man the lower bowel was probably as sensitive to irritation as any other part of the digestive tract. The customs of polite society, in short the demands of civilization practiced through the centuries, has more and more tended to make of the lower bowel a distended reservoir. As the lower bowel becomes more and more distended, its expelling power is more and more reduced, and the sphincter of the anus is stronger and its natural spasmodic power harder to overcome. At the same time, as the lower bowel becomes more distended it absorbs more moisture from the contents, resulting in a larger, drier fecal mass remaining. In attempting to overcome this condition a great deal of damage is generally done which results in increased dilatation and further loss of sensibility. We refer to the habit of colonic irrigations or large enemas so frequently practiced. This habit simply means the conscious taking over of the functions of the lower bowel, interrupting the orderly natural processes. The relief experienced is only temporary. The enema habit itself, therefore, becomes a cause of the very condition it is sought to overcome. It also results in washing out of the colon much food in the process of fermentation and digestion in that important organ, and in the case of malnourished people aggravates that serious condition. Continued and repeated irrigations after a time become very harmful. On account of the fact that nature has given man at least partial control over the lower bowel, there is a difference in the peristaltic action of the colon from that of the small intestines. The normal peristalsis or wave action of the colon occurs only at intervals and the movement is long and sweeping. These waves are much more active during the day than at night. Thus one of the most common causes of constipation is the failure to observe a regularly appointed time each day for attention to the bowels. Irregularity which means neglect or postponement of attention at the exact and proper time each day is sure to bring on constipation. It is perhaps the most common cause, certainly the chief cause for the beginning of trouble. Lack of accommodation facilities is a cause in many industrial plants such as railroad offices, factories, large stores and so on which employ many people without sufficient toilet facilities. Frequently such facilities in private or corporation plants are not kept clean and so neglect of this function is encouraged. In some there is lack of privacy. However all such defects are rapidly being remedied through more modern construction and better inspection service. A multitude of farm women, rural teachers and others who live in rural section without the benefit of sewage and toilet facilities easily establish the constipation habit because of a lack of comfortable sanitary privies. This is especially true in cold or inclement weather. A sedentary occupation, while not in itself a cause, becomes so often through the contraction of lax habits about physical exer-
cise or exertion. Depressing emotions such as worry, anxiety, fear, anger may cause temporary constipation, and if not immediately overcome and adjustment made chronic trouble may ensue. One of the simplest causes is starvation. Many internal medicine specialists believe and teach that just about as many people undereat as overeat. All such people inevitably may expect to suffer from constipation. Next in importance to the failure to establish and rigidly follow "Habit Time" is the failure to partake each day of a sufficient quantity of properly balanced food. Food that is concentrated, that has little residual matter and which forms all or nearly all of an individual's food requirements for too long a time is likely to result in constipation. This kind of constipation in itself is not harmful; but it means that such a person is neglecting to consume the very vital elements as some of the vitamins contained only in certain rough foods. Such a procedure is likely to result in a serious "deficiency" disease in addition to the simple constipation. Sometimes obstinate constipation is caused by abuse of the "medicine habit." Prolonged use of laxatives and cathartic drugs unless carefully watched by a good physician not only often cause intractable constipation, but brings on many serious complications, such as hemorrhoids, fissures, mucous, colitis, ulcers and so on. Many people suffer from constipation for the simple reason that they fail to drink enough water. Another cause is hurry. Many people get up in a hurry. Bathing and dressing is done on the run. Children are hustled around in order to get them ready for school. Instead of a good breakfast for all the family consisting of plenty of fruit and other properly prepared food, leisurely eaten by all, they dash for the dining room and hurriedly bolt their breakfast. And what food! Generally insipid, "quick" patent breakfast foods, with very little food value, bulk considered. Such a breakfast is over within from three to five minutes. More hurry in a race for school, or to work in factory, office or store. The whole nervous system wound up like an eight day clock first thing in the morning. Constipation is only one of the many troubles which such living may cause.

The Prevention of Constipation

The first suggestion we have to make to an individual who wants to know how to prevent constipation or how to treat the condition when present, is to turn back and read the statements under the head of "Causes of Constipation," and then avoid the things that cause the condition. It should be clearly understood that constipation cannot be prevented or successfully treated when once established by taking laxatives or cathartics, pills or potions or enemas. Today specialists in neurology the world over are practically a unit in teaching that ordinary constipation of any kind except that which is caused by organic disease can be successfully treated by the simple process of observing daily an exact specified time for the bowels to act. Regardless of everything else the visit to the toilet should be made on daily schedule. Specialists teach that the visit should be made with absolute regularity. There should be no aid through the continued use of enemas. No previous laxative should be taken. Straining should be avoided once seated on the stool. No special attention should be centered on the function, as that tends to produce contraction instead of relaxation and defeats the purpose of the visit. The toilet should not be made a reading room, however, because attention is distracted with similar results. The only requisite for success to many sufferers in following such a routine is determination and persistent effort.

Arthur L. Holland in his book on "Indigestion" agrees with the foregoing but suggests that patients should know that in prolonged constipation with a distended lower bowel and a too extensive absorption of moisture from the fecal mass, it is necessary to consume more of the kinds of food that are "laxative through their moisture retaining properties." Stewed fruits such as apples, peaches and prunes are ideal foods for this purpose because they retain their moisture well down into the intestines as well as carry bulk. There are no constipating foods, except in a negative way. A diet consisting mostly of such things as chocolate, lean meat, cheese and many other foods are digested almost completely and absorbed without leaving much residue, and the lower bowel fails to respond to such slight mass and no call to the toilet results. Such foods are very essential to maintain normal health and the balance should be maintained by consuming plenty of fresh vegetables and fruits. All the green vegetables such as cabbage, raw and cooked, lettuce, celery,
turnips, carrots and many others are available for use the year round. Dried fruits such as apples, prunes, peaches, especially when stewed are equally as good as fresh fruit. But plenty of fresh fruit should be eaten when it is possible to obtain it. Preserved fruits such as strawberries, figs and others can be available every day in the year where it is not possible to obtain fresh fruit. The daily diet should have plenty of cereals as oatmeal or whole wheat. A good balance of fats and oils, especially the vegetable oils like cotton seed oil now sold so widely for making salad dressings, should be consumed regularly. More Graham bread and whole wheat bread with less of refined white flour would aid greatly in maintaining a better balance. Such food would not only aid in preventing constipation but would help prevent many diseases. For people living in the country or small towns especially in the wheat belt it should be an easy matter to have their wheat and corn ground at nearby mills, thus retaining all the valuable food constituents of the grain. The bread and biscuits should be prepared in the old time way by the use of yeast or by the “beaten process.” The seasoning could better be put in at home and milk should be used in the making. Milk and butter in abundance should be used in every home daily as one of the important articles of diet. As before mentioned, sweets in the form of fruit preserves should be plentiful, especially for children, to which should be added frequently simple syrup, honey, and if possible to procure, genuine old time molasses. Bran should be used sparingly, and if at all in the form of well cooked muffins. Take plenty of time for each meal but especially breakfast. In the matter of physical exercise nothing can take the place of plenty of outdoor exercise in the open air every day. For those whose occupation prevents this there are a few calisthenic exercises which may be recommended. One of the easiest to carry out and about as effective as any is the following: Lie flat on your back with arms by your side, palms down, legs straight and toes pointing upward. Bring the right leg up as far as possible, keeping leg straight at knee and toes pointing back over head. Repeat this movement fifteen times. Go through same move with left leg fifteen times. Then repeat fifteen times with both legs together. This exercise should be taken preferably on a hard floor immediately on getting out of bed every morning. Another form of exercise that may be tried with excellent results is somersaults, which need no description. After the exercise is completed, one or two glasses of cold water should be taken. Cold water is much more preferable than hot water. Now to repeat once again, take plenty of time for a properly prepared breakfast of regular food. Water should be taken with meals and between meals in satisfactory quantities. Each individual should be his own judge as to the quantity necessary and which conforms to his own comfort. Properly prepared tea or coffee in moderation is not harmful to adults but should not be given to children.

Careful and systematic attention to the details set forth in this article with reference to food and the establishment of proper health habits will prevent the constipation habit, unless organic disease is present.

To the many who already suffer we offer a few additional suggestions. We shall not discuss complications which may be present, such as phlepsy-piles, fissures or ulcers because that is a condition which demands the careful attention of a good physician. Furthermore, any person having such complications should avoid all self medication exercises, food regimes and so on except directly prescribed by the attending physician. For those who suffer from simple obstinate constipation of long standing without complications, it may be necessary to prescribe some drugs and an occasional small enema in putting into effect successfully the advice offered in the foregoing article. A personal physician can best attend to this but a few simple suggestions can do no harm and may be helpful. The patient should realize in the beginning of the treatment that constipation in itself after all is not serious. That will eliminate worry. Do not worry about the “liver being out of order.” The liver is one of the most perfectly functioning organs in the human body. If all the people knew that fact some of the lawyers representing the half billion dollar “patent” medicine industry would have to go to work for a living. Physicians have found from experience that one of the best aids in beginning the successful treatment for constipation is some form of Japanese sea weed. The laboratories know it as Agar Agar. It is a jelly like mass which retains its consistency down to the lower bow
and easily combines with the fecal matter there, forming a consistent mass not too loose and yet soft enough to be satisfactorily evacuated. This substance should be used with decreasing frequency and in diminishing quantity. A small dose of mineral oil taken about twice a week and used in the same way for a while is useful. If both fail for a few days in the beginning of the treatment and headaches and vertigo occur a light enema about twice a week may gradually relieve the condition until nature reasserts itself and both drugs and enema may be discontinued.

In conclusion, if there is no complication simple constipation may be successfully prevented by careful attention to "Habit Time" and intelligent food selection.

MEASLES

From all over the country come reports that measles is and has been more or less epidemic for the last several months. This fact is certainly true so far as North Carolina is concerned. There is no good in calling attention to the exact number of cases reported, but suffice it to say that there have been thousands and thousands of them reported during the last three months.

Deaths have been numerous, and the public will have no way of knowing how many children will suffer from complications such as kidney troubles, eye diseases, and other serious affections. Often one of the most serious consequences of measles is that in children of frail constitution and undernourished condition, and especially in those having a tendency to tuberculosis, that disease is often stirred into activity. It cannot be doubted that numbers of cases of tuberculosis in young adults follow primary infection taking place after an attack of measles.

Public health authorities have been almost helpless in trying to control the spread of such diseases as measles. In diphtheria and smallpox we have an active and sure protective agency to utilize in preventing those diseases, but such cannot be said about measles. There is what is called a convalescent serum which, however, is hard to procure at the exact time and place where such an agent is most needed, and therefore it has not been possible for general practitioners in most parts of the country to utilize this agent. It is to be hoped that the laboratory workers will soon perfect some product to compare with toxin-antitoxin in its protective power against the disease.

The infectious agent causing measles is generally contained in the excretions from the throat and nose, and even sometimes from the eyes of patients in the early stages of the disease. This infectious agent is very active, sometimes as long as three days before the eruption begins to appear, and for two or three days after the eruption occurs the respiratory secretions are still highly infective.

It is now thought that the disease is not often communicated after the temperature has returned to normal and after the eruption has disappeared. The symptoms of the disease begins several days before the actual eruption occurs. This period is one of the hardest to deal with by health authorities, especially in the beginning of an epidemic in a community before the presence of the disease has become generally recognized.

As a rule, one attack confers immunity for life on a patient, although this is not true in every case. Reports from Cabarrus County, North Carolina, and other sections (we do not know how reliable) have indicated this winter that the disease has been frequently occurring for a second time in certain patients. Some have even reported a third attack. It is probable that most of such reports are caused by the fact that the patients have had what is called German measles previously and which was mistaken for the genuine type of measles, which is a much worse disease and much more serious in its consequences than German measles, which is generally a mild disease.

Although it is almost like locking the stable after the horse has been stolen, it is well enough to call attention right now to some of the things that may be done to protect, certainly from complications and more serious consequences, when measles occurs in a family. Naturally the first and most important thing to do is to put the patient to bed, send for a good physician, and exclude every child, especially the neighbors' children, from any child suffering from respiratory troubles until a diagnosis is definitely made. Rest in bed in a comfortable room, with plenty of fresh air and abundance of water to drink, and the careful attention of a competent physi-
cian through the active stages of the disease will generally assure a prompt and satisfactory recovery without complications. There are some drugs which the physician generally administers which are very helpful and assure the patient comfort and are really essential to a prompt and satisfactory recovery. In some of the more highly organized city health departments a supply of convalescent serum is prepared for distribution to the attending physicians.

In Detroit, Michigan, the department of health offers ten dollars to each patient who has recently recovered from an attack of measles and who will come to the departments of health offices and let the attending physician secure a specimen of blood from such patient. Of course the blood so secured is carefully tested at the department’s laboratory in order to definitely ascertain that the blood is pure and sterile and free from any injurious agent. It is only in cities having a highly organized health department and an efficient modern laboratory where such efforts can be carried through to successful conclusions.

For the most part the people of North Carolina at present must depend on protection for the very young children by keeping them away from any suspected case of contagious disease and in careful medical attention and nursing when the disease occurs. It is very important that all children under six years of age be protected from exposure to the disease. The mortality is very much higher among children under six than among any other age group. Complications also when following a primary attack of measles in the very young are generally much more serious.

WHAT THE PUBLIC SHOULD KNOW IN REGARD TO GOITRE

BY

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“Of the recent contributions which physiology has made to medicine, none have been more notable or more far-reaching in their results than the light thrown upon the nature and activities of the ductless glands—imperfectly termed by the public as the ‘internal glands.’ Such light is by no means clear and steady, but the darkness is no longer hopelessly impenetrable, and we are able to view the complex working of the human machine from a standpoint hitherto unattainable.” (Boyd.) The thyroid gland, one of the ductless glands, having an internal secretion which is absorbed by the blood stream and distributed to all body tissues, situated in the front of the neck, has been the subject of tremendous research. The result is that our knowledge of this gland and its diseases during recent years has attained considerable accuracy.

It is difficult to overdraw the vital role played by the thyroid gland in the maintenance of bodily health and mental vigor. While the exact functions of this gland can even yet hardly be defined in very precise language, it undoubtedly exerts a most potent and far-reaching influence over the various processes of mental and bodily activities. Its secretion which is distributed by the blood stream is a necessary stimulant without which there can be no health and vigor of the body, no flash and speed to the mind. McCarrison, a well known English surgeon, has said “the thyroid gland is to the human body what the draught is to the fire.” The vital necessity of the thyroid secretion can be pictured in no more graphic and unforgettable style than by witnessing the human being in whom the gland is undeveloped or absent at birth. Such individuals are called “cretins” and may be frequently seen in circuses or vaudeville. From birth they remain dwarfs—physically and mentally—or like “little boys who never grow up.” The stature is stunted, the head large, the face broad, the features coarse and dull, the arms and legs short, and curved, and the mental powers only a little better than those of an imbecile. Such changes are entirely due to a lack of thyroid secretion.
Compare these stupid, dwarfed little dullards to the individual who through stimulation of the thyroid gland gets too much secretion, a condition known as Hyperthyroidism. Such condition coming on later in life, there is no change in the stature but the person presents a picture of intensely nervous over-activity. The eyes are often prominent and staring, the heart action is pounding and rapid, physical or mental relaxation is impossible, the state is one of ceaseless and exhausting over-activity. Every process of the body is speeded up to the limit. The individual is driven at a rate that is wasting and destructive. The bodily nutrition is fairly burned up. Such an individual loses weight, becomes emaciated, and finally collapses from sheer exhaustion of some one of the vital organs of the body—the heart, the liver, or the kidneys. In normal health the secretion of the gland is delivered to the tissues at some point between these extremes.

Finally, someone with a turn for the picturesque has remarked that the internal secretion of the thyroid gland "converts the sluggish toad into the lively frog."

It has been established through years of observation and research by physicians and physiologists that the one great essential for normal thyroid function is an adequate supply of iodine. Without iodine normal thyroid activity is not possible. The thyroid differs from all other tissues of the body in that it contains iodine which is so necessary to its proper function. It has also been demonstrated that the active principle of the thyroid secretion, called thyroxine, first isolated by Kendall in 1914, contains 65 per cent iodine. As it has already been shown the vital necessity of this secretion, or thyroxine, to the normal bodily and mental activity, it follows that all tissues of the body must utilize iodine in order to perform their individual and specific functions. Iodine is as essential to the body tissues as the well known and much discussed vitamins. But where does this iodine come from? We have said that the thyroid contains iodine and that in its secretion it dispenses iodine to the tissues, but it does not manufacture iodine. It only stores and converts iodine into a product which is available for use by the tissues. Iodine enters the body chiefly by food and water intake. As a food, it is found chiefly in the leafy vegetables and sea food. Perhaps a small amount gets into the body from the air. Later on, it will be shown what results will follow when the individual does not get a sufficient intake of iodine. Having gained entrance to the body, the iodine is taken into the blood stream from the intestinal tract, carried to the thyroid gland and stored. Through its own activity, this gland converts the simple form of iodine into the organic product known as thyroxine, which can be utilized by the tissues and delivered to them as needed. The demand of the tissues for thyroxine or iodine acts as a stimulus upon the thyroid gland which responds by pouring out the iodine compound into the blood stream, by which route it is carried and delivered to the tissues. Such is the story of iodine and its part in the economy of the human body, and with this in mind it can later be understood what part it plays in the development of goitre.

Goitre is a descriptive term which is used to broadly cover all enlargements of the thyroid gland. It may or may not be a diseased thyroid gland, and has variable potentialities for harmful effect on the individual. It is found in the lower animals and fish as well as man, and is said to be more common in animals living under domestic conditions than in those in the wild state. There are several types of goitre to be found in man but there is a tendency to consider all as simply different stages of the same diseased process, a diseased process that is instituted by lack or deficiency of iodine in the human system. It is well established that many of the simpler forms of goitre are entirely due to this absence of iodine, but whether or not the severer forms can be so explained is as yet an unsettled question.

Since a deficiency of iodine may be considered as a factor in the development of goitre, our next question is what brings about this shortage of iodine? A lack or deficiency of iodine may be brought about chiefly in two ways. First, there may be an insufficient quantity of iodine taken into the body in the food and water. A diminished quantity of iodine content in food and water is usually encountered in what is known as goitrous belts. In these areas the soil and water are found to be low in iodine and consequently goitre in these areas is very prevalent. Not only is man affected but also the animals and fish. In mountainous regions goitre is more prevalent than at the seashore for the reason
of the difference in the amount of available iodine. In our own State goitre is not endemic and cases are practically all sporadic. Two of the great goitrous districts of the world are located around our Great Lakes and in the mountains of Switzerland.

Now when there is a deficit of iodine ingested, there is a diminished amount carried to the thyroid to be converted and stored for the needs of the tissues. There is consequently an insufficient storage of iodine in the thyroid and ultimately the need for the tissues cannot be met. The state is then one in which there is a demand of the tissues for more iodine but owing to the deficit of iodine in the gland, this demand cannot be met and the thyroid responds by what is known as hyperplasia or enlargement. In other words, the development of goitre then begins. The thyroid enlargement continues as long as the stimulus acts or until the need for iodine is supplied. In the early stages of the thyroid enlargement or goitre, the administration of iodine may prevent the further development or cause to disappear the enlargement already present by supplying iodine to be stored in the gland and eliminating this deficit.

Now secondly, there may be an iodine deficiency in the body at certain periods of an individual's life, when there is an increased demand or need for iodine. The amount taken in by food and water is normal but owing to some unusual stress or strain borne by the tissues, there is a greater need for iodine than the amount supplied. At puberty, during pregnancy and lactation, during the menopause, and during acute intoxications, there is a very marked tendency for the thyroid gland to enlarge. At these periods there is an unusual demand by the tissues for iodine. The thyroid, being incapable of meeting the larger demand, responds as in the first case by hyperplasia or enlargement, with the ultimate development of goitre. The administration of iodine at these periods may be beneficial in preventing goiter by again supplying sufficient iodine to meet the needs of the tissues during a time of unusual stress.

Enlargement of the thyroid gland at adolescence is of common occurrence and varies in frequency in different localities. It is a physiologic condition and due to the unusual demand on the gland at this time. It is not serious, and if it seems desirable may be controlled and eliminated by a discriminating administration of thyroid extract or iodine.

In a great many women there is an enlargement of the thyroid during pregnancy, the frequency of the occurrence again depending on the locality, being much more common in the goitre belts. This goitre again is the result of unusual demand on the thyroid gland. As a woman who has had a goitre of some years standing approaches the menopause, there is an unusual risk that this quiescent innocuous goitre may be fanned up into a toxic, highly dangerous form by the stress and strain of this period of woman's life.

The use of iodine in the prevention and treatment of goitre is of more value in the prevention than the treatment. Once goitre has fully developed, iodine accomplishes very little in the cure and is of aid chiefly in preparing the patient for surgical removal of the goitre. It is in the prevention of goitre that iodine administration finds its field of greatest usefulness. If during the development stage of goitre iodine is given, the goitre may be prevented. It is for this reason that in goitrous districts the systematic administration of iodine to school children approaching adolescence is a public health measure and has been found of distinct value. Goitre first making its appearance during pregnancy and lactation can often be controlled or eliminated by judicious administration of iodine in small doses. Some of the unpleasant symptoms during pregnancy such as headaches, irritability, insomnia, nervousness and a rapid pulse when associated with a slight thyroid enlargement are due to the unusual activity of the thyroid gland at this time and such symptoms may be very adequately eliminated by small doses of iodine. Not only is this true, but also the administration of iodine to the pregnant woman will prevent the development of congenital goitre in the child. Goitre occurring at the menopause should be treated with iodine only after very careful examination and under constant medical supervision. Surgery at this period is perhaps the best policy.

Before leaving the question of the prevention and treatment of goitre with iodine, it is paramount that some mention of the risks be made. At the outset, it is essential that iodine be administered only under the surveillance of a physician adequately informed in matters pertaining to the con-
control of goitre. There is nothing more likely to result in great harm than the promiscuous administration of iodine in cases of goitre. Each case may be considered on its own merits as to whether it is or is not suitable for the administration of iodine. Nodular goitres and goitres fully developed or of long standing, are not only not benefited by iodine but are often converted into the gravest forms with very disastrous results to the welfare of the individual. A careful diagnosis by a physician and an analysis of the particular features of the individual case must precede any dosing with iodine. It is to be remembered that only the simple goitres are amenable to iodine treatment and this usually under the age of 25 years, and even then iodine is of value only in the development stage and chiefly as a preventive. The treatment of other forms of goitre with iodine is extremely hazardous to the continued health of the individual and certainly is not to be advised. In certain forms of goitre associated with nervousness and prominent eyes, iodine is of benefit only as a preparatory treatment with a view to the removal of the goitre by surgery.

At the present time the most satisfactory method of treating fully developed goitre with few exceptions is by surgical removal of the gland. With further development of medicine, some other form of treatment may become more popular but at present surgery offers the best prospects for eradication of the disease. Injections, radium and the x-rays have been tried and have been found unequal to the good results obtained by surgery. As a general rule, unless the goitre is very large or is producing nervous symptoms, the removal should not be undertaken before the age of 30 years as the gland as already seen is vital and is needed in the full development of the individual.

Broadly speaking, the indications for the surgical removal of a goitre are clear-cut. If it is large, producing pressure symptoms, difficulty in breathing, etc., or is unsightly, removal is indicated. Irregular, nodular goitres should all be removed as early as practical since they harbor small tumors which may ultimately result in the condition known as hyperthyroidism or over-secretion of the gland. The development of hyperthyroidism is a disaster and leads to an irreparable damage to the nervous system and heart. These individuals are extremely nervous, suffer pounding hearts and a rapid pulse rate. The development of hyperthyroidism is a slow, insidious process, usually in a patient of 40 years or older, who has had a goitre for many years but the presence of which has been given very little significance. Such individuals often consult the doctor for some other complaint, usually heart disease, not realizing that the long standing goitre is the basis of the symptoms, consequently many of these patients when first seen by the doctor, have an irreparable damage to the heart or other vital organs. It is only in firm nodular goitres that cancer of the thyroid gland may develop. It is therefore quite apparent that any nodular goitre should be removed before later complications set in. Iodine should never be taken in such a type of goitre.

Goitres known as exophthalmic goitre because of the prominence of the eyes are always surgical conditions and should be operated on as soon as the diagnosis is made. This disease is always associated with extreme nervous phenomena, rapid pulse, tremors, and ultimately permanent damage to the heart and kidneys. Early removal of the gland is the best guarantee to the continued health of the individual. The onset of the disease is often abrupt and striking, sometimes following a tremendous emotional upheaval. For example, a number of cases developed suddenly during the recent war in towns under bombardment. The administration of iodine in these cases may lessen the intensity of the symptoms and so prepare the patient for a safe operation but otherwise iodine has no value in either the treatment or the cure.

Such is the story of goitre, its various forms and its treatment. Like so many other diseases which afflict the human race, much can be done in the prevention with iodine and a great deal of suffering and damage to vital organs saved by the early and timely seeking of medical advice and aid from one's physician who always stands ready to advise and direct. Periodic physical examinations offer the best assurance to health, not only in cases of goitre but also in all other matters relating to disease.

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**BANG!**

My Bonnie looked into the gas tank,  
My Bonnie lit matches to see  
If there was any gas in the gas tank  
Oh! bring back my Bonnie to me.
A USABLE PLAY FOR ELEMENTARY GRADES
(The fifth of a series)
by
ELIZABETH KELLY

The only way to keep well and strong is to form and retain habits of healthy living. The earlier in life these habits are formed the better, since the strength and beauty of the mature body are largely determined by the health habits of the child. This the fifth play of a series is intended to offer an opportunity for teachers to aid children in putting into daily practice some necessary hygiene with reference to personal cleanliness. Too much stress is often placed on cleanliness of skin and clothes while the more important element of a proper practice of hygiene for the mouth and for the intestines is neglected. The great gateway of disease is the mouth, and clogged intestines can harm the whole body. Although proper food, exercise and healthful sleep are the greatest factors in strong body building, it is also necessary for the successful body builder to recognize and practice for himself the fundamental requirements of body cleanliness.

The teacher is again reminded that the presentation of these plays by school children can only call attention to the necessity of a constant practice of eating and exercising and sleeping and keeping clean properly. The purpose of the teacher should be to help the child acquire these practices and continue them until they become lasting habits. The necessary habits of doing these things can only come from daily practice of these things.

HOUSETENDING
CAST
Teacher: A capable school girl.
Class: Four boys and four girls.
Miss Bodie Cleanliness: A clean, neat girl.
Mr. Gatekeeper: Active, bright boy.
Miss Outer Guard: Strong, bright girl.
Mr. Inner Guard: Strong, bright boy.
Miss Neat Appearance: Neat, well groomed girl.

SCENE
A school room with teacher and eight class members ready for recitation.

Teacher: Miss Bodie Cleanliness is coming presently to show us what she and her helpers can do to make us good body builders. What others have we already had to show us how best to build strong bodies for ourselves?

First Boy: Mr. Nourishing Food brought us his best materials and told us how to use them. He gave us this creed to live by in selecting our daily food: "A maximum of vegetables, fruits, cereals and milk; and a minimum of meats, sweets, and pastries; neither tea nor coffee."

First Girl: Mr. Healthful Exercise brought his helpers to show us how to take daily exercise as a necessary body building material which we must practice using daily, if we are to build for ourselves the best bodies possible.

Second Boy: Miss Restful Sleep told us how to sleep and rest and at the same time build our bodies.

Second Girl: I wonder if Miss Bodie Cleanliness will also bring interesting helpers and materials with her. It was such fun to see Mr. Healthful Exercise and his helpers show us how to walk and run and jump and skate and dance and all the other interesting things which go to make up healthful exercise.

Teacher: Perhaps she will. We shall see. In the meantime let us discuss the practice we have had in using the materials recommended by Mr. Nourishing Food, Miss Restful Sleep and Mr. Healthful Exercise.

Third Girl: I have done what Miss Restful Sleep told us to do, and I feel so rested.

Fourth Boy: It is not easy to get all the things Mr. Nourishing Food had to eat, but we can get some of them and I am drinking a lot of milk each day to make up for the kind of food we can not get. We are going to have a better garden next year so we can have our own vegetables and berries.

Fourth Girl: I am doing more and more of the things they all told us to do each day. It is not easy to do it all at once,
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but little by little we can keep on until we are using these materials each day without effort or trying to remember what to do.

Teacher: Your are right. The important thing to remember is to practice these things daily until the doing becomes a habit. The best builders are those who can judge materials and who become expert workmen from constant practice. Ah, Here is Miss Bodie Cleanliness.

(Enter Miss Bodie Cleanliness with her four helpers. Class rises while teacher introduces Miss Bodies Cleanliness who in turn introduces her helpers.)

Miss Bodie Cleanliness: I have come with my helpers to show the Body Builders how to beautify their building and keep it from decay.

Teacher: We are glad to have you and your helpers come to aid us in knowing how to build for ourselves the best and finest bodies possible.

First Boy: Do you build for us like Miss Restful Sleep?

Miss Bodie Cleanliness: No, I can only show you how to build for yourself. You have learned how to choose and to use the most nourishing foods; how to take healthful exercise and how to sleep and rest; now you must learn how to keep your body clean inside as well as outside, so that disease germs may not weaken or destroy your building.

First Girl: But I thought cleanliness made you look better and be more attractive. I did not know it kept away disease germs.

Miss Bodie Cleanliness: It does both, although people often only think of the attraction of cleanliness. I will ask my very important helper, Mr. Gatekeeper, to show you what he does to keep the body clean.

Mr. Gatekeeper: The mouth has been called "The gateway of disease" and it is my business to guard this gate against all enemies of the body that seek entrance there.

Second Girl: How do you guard the gateway?

Mr. Gatekeeper: I keep the teeth and whole mouth clean, and always keep on the look-out for decayed teeth, diseased gums, adenoids and tonsils. I do not permit anything to enter the gateway except healthful food and drink; and I must know that the healthful food and drink must be free from disease germs.

Third Boy: How do you keep your mouth clean and how do you know the food and drink are free from disease germs?

Mr. Gatekeeper: (shows tooth brush and paste) I use these to clean my teeth and gums when I get up from sleep, after each meal and before going to bed. (Shows how to use brush). I use this dental floss to get particles of food from between my teeth. This is to keep the teeth from decaying and to keep disease germs from finding a welcome in the mouth. Of course I can not always know that food and drink are free from disease germs; but I can know that raw fruit and vegetables are clean before I eat them and I do not drink milk or water from sources that I do not know are clean. It is my business to know these things and you must know and do these things if you keep disease germs from entering your gateway.

Third Girl: Miss Bodie Cleanliness, how can I keep my skin clean and pretty?

Miss Bodie Cleanliness: I will let Miss Outer Guard tell you since that is her business.

Miss Outer Guard: I keep the skin and the clothes clean. I use pure soap, clean water, this soft wash-rag and clean towels. I bathe the body and change the clothing often, and I wash the hands always before eating any food so that I may help Mr. Gatekeeper fight against letting disease germs enter the mouth. I also keep the pores of the skin open to help Mr. Inner Guard keep the inner body clean. Of course if the skin and the clothes are kept clean the body is much more attractive, but disease germs thrive in filth and I can not afford to let them come near the body; so, I fight disease germs as well as to keep the body clean and attractive.

Fourth Boy: What does Mr. Inner Guard do to keep the body clean?

Miss Bodie Cleanliness: Mr. Inner Guard, tell why you are one of my most important helpers in keeping the body clean.

Mr. Inner Guard: Sometimes the body is called an engine. The food would be the fuel for the engine. Suppose you had a good fireman that fed good fuel to the engine and never removed clinkers, cinders,
ashes and other burnt out material. What would happen to the engine?

Fourth Boy: The fire would get so it would not burn and the engine would not run.

Mr. Inner Guard: Exactly, and that is what happens to the body if food is taken in constantly and no care is taken to keep the intestines clear. My business is to keep the whole digestive tract clear of waste. This must be done if the body is to remain healthy.

Fourth Girl: Tell us how you keep the wastes from clogging and harming the body.

Mr. Inner Guard: I see that the waste matter is evacuated thoroughly and regularly each day. I do not have much trouble with this if Mr. Gatekeeper lets in enough fresh fruits, vegetables and cereals and water. Mr. Healthful Exercise also helps lighten my work, but sometimes I have to use artificial aids temporarily until proper food and exercise removes waste matter naturally.

First Boy: I see why it is so important to keep the inside as well as the outside of the body clean. What does your other helper do to keep the body clean?

Miss Bodie Cleanliness: Miss Neat Appearance helps to keep away disease germs also, but she works most to make the body good looking and attractive. Miss Neat Appearance, tell the body Builders what materials you use and how you build with them.

Miss Neat Appearance: I keep the hair well groomed by brushing it every day and washing it when it needs it. I keep the nails cleaned and trimmed. I keep the clothing and shoes and stockings mended and in good order. I select clothing suitable for the weather and suitable to the wearer. I try to have folks think the person I work with looks well and attractive without knowing why.

First Girl: If I follow the advice of Miss Neat Appearance, it seems that I can be attractive without worrying with all the other things we have been told to do.

Miss Bodie Cleanliness: That is what too many girls think. They pay no attention to building a strong body, but undertake to dress up the outside forgetting that a healthy body has beautiful skin and bright eyes and glossy hair and an easy, graceful carriage none of which can be copied or made up for by paints or powders, or any other artificial thing.

Miss Neat Appearance: My business is to help the body builder make the most of his body and not to teach him to substitute temporary, cheap makeshifts for the lasting and real attributes of a healthy, strong body.

Second Boy: I see now that all good body builders are interdependent and that I as my own body builder must not neglect the material or the advice of Mr. Nourishing Food, Miss Restful Sleep, Mr. Healthful Exercise and Miss Bodie Cleanliness if I am to build a strong beautiful body for myself.

Teacher: Would you like to invite all these master body builders with their helpers to come back and see what we Body Builders have done to put in practice what they have taught us?

Class: That will be fine, and in the meantime we will practice each day the use of the materials which they have taught us must go into the building of strong bodies.

Teacher: We are grateful to you, Miss Bodie Cleanliness, and we shall look forward to your coming back with Mr. Nourishing Food, Miss Restful Sleep, Mr. Healthful Exercise and their helpers that we may show by our works that we really appreciate the help of all the master builders that have come to us.

All: Our Motto: "Mens sana in corpore sano!"

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**OBESITY NOT GLANDULAR**

"Fat people have nothing to blame but their own gluttony for obesity and by counting calories they can always reduce." — Dr. Louis H. Newburgh of the University of Michigan declared in reporting experiments that refute the idea that obesity is due to internal gland trouble, heredity or any other trouble except eating too much. He blamed science, the source of America's greatly increased wealth of the last quarter century, for making America a race of overweight people who are being injured by their ability to buy rich and tempting foods. Consuming too much food is a personal fault like getting drunk in Doctor Newburgh's opinion and just as inexcusable.—Science News-Letter.
PELLAGRA

We are herewith quoting an editorial on pellagra published in the October 1st issue of the *American Medical Journal*. This editorial, while naturally written for physicians, and therefore, of course, written in technical language, is for the most part simple enough for any intelligent person to understand, and it should be of interest to all thoughtful people. The information the editorial contains is vital to the best interest of every family, especially in the South. We hope that all of our readers will read this. The editorial follows:

"Economic stress, accompanied by an unbalanced dietary, has affected some of the recently flooded areas of the lower Mississippi Valley. Pellagra, accordingly, has increased. In that area, in 1924, the reported cases of pellagra numbered 20,000 and the reported deaths, 1,020; in 1927, according to an estimate made by Goldberger and Sydenstricker, the number of cases of pellagra will be from 45,000 to 50,000 and the number of deaths, from 2,500 to 2,500. This forecast has impelled the United States Public Health Service to disseminate recent information on the nature and prevention of the disease.

"In certain sections of the South, during hard times, the diet becomes restricted substantially to meal, salt pork and molasses. This ration, since it is low in the 'pellagra-preventing dietary essential' vitamin P-P, will not forestall the development of the disease. When the food supply is poor in this vitamin, certain symptoms appear. Unfortunately, they are indefinite in early cases. Nevertheless, in regions where pellagra is prevalent, suspicion should be aroused by the occurrence in a patient of loss of strength, indigestion and nervousness, dizziness, discomfort or pain in the epigastrium, headache, wakefulness, and constipation. If, furthermore, there are burning sensations of the hands, or feet, or mouth, a reddened tongue and diarrhea, the evidence of pellagra is more definite. In the presence of any or all of these symptoms, inquiry as to a patient's eating habits is indicated. In well advanced cases, the main dependence can be placed on the eruption, which, when it first appears, may be mistaken for sunburn. Next, the skin takes on a dirty brown and frequently a parchment-like appearance. Soon afterward, it becomes rough and scaly, or cracks and peels. These skin manifestations are characteristically bilateral and their most common sites are the backs of the forearms and hands and the backs of the feet. Other portions of the body surface that should be inspected in suggestive cases are the sides and front of the neck, the face, the arms, the elbows, the legs and the knees. Inquiry will frequently reveal that patients who present these symptoms have been living on corn-meal, salt pork and molasses.

"As yet, the quantities of vitamin P-P in various foodstuffs are unknown, but there is reason to believe that the substance is present in small amounts in milk, vegetables and fruits, and in larger amount in lean beef, mutton, pork, fish, fowl, yolks of eggs and powdered yeast. Dried pure yeast has the greatest content of this vitamin of any foodstuff known at present. For use as a food, the yeast plant preferably should be dead. It can be killed by stirring the dry yeast into some water and boiling the mixture for about one minute. The adult dosage is one ounce a day, or two teaspoonsfuls taken three times a day. A child under 12 years of age should be given half of the adult dose. These foods, in suitable quantities, must be consumed regularly at all seasons, for recovery from one attack of pellagra does not confer immunity. If the diet again becomes deficient, the disease will recur. Therefore, according to Goldberger, 'every effort must be made by the individual and by persons in positions of influence to improve available food supplies by the promotion of diversified farming, the ownership of good milk cows, and the cultivation of more and better gardens.

"Pellagra is no doubt still a problem that has not been completely solved. The careful studies of Goldberger seem, however, to point the way definitely to a practical means of prevention and of cure. It is fortunate that the knowledge is available at a time when such a disaster as the great Mississippi floods makes it especially valuable."

2 Diversified Diet Recommended to Check Pellagra, the United States Daily, August 26, 1927. Yearly Index 1803.
ADULT CARELESSNESS CAUSE OF MOST ACCIDENTS TO CHILDREN

One morning in early October people throughout the State were shocked on reading the account of an accident which occurred at a school in Edgecombe County the previous afternoon. Somebody had carelessly left a two hundred gallon empty discarded gasoline tank on the school ground. The screw cap top had been carelessly left loose, and was easily removable. After school had dismissed for the day a group of school children with natural normal curiosity, like healthy children anywhere, any time, assembled around the tank for the purpose of a curious investigation. One of the children succeeded in getting the top off and another little chap very naturally threw a lighted match into the tank to see what would happen. As would have been expected, by even the morons who left the tank on the school ground in such a condition, plenty happened. A terrific explosion occurred which resulted in the instant death of one child, the death of another a few hours later, and the newspapers reported a third in a serious condition. Several others were badly injured, and the whole community very properly shocked and terrified.

Children are naturally curious and of an investigative turn of mind. It is well for the advance of the human race that such is the case. This is normal and natural among healthy children anywhere in the world. Through this curiosity and the desire for information in every conceivable subject the progress and advancement of the world is maintained. It has been our observation throughout life that nearly all the serious accidents of children occur as a direct result of the often criminal carelessness of their so-called adult protectors. Any thoughtful man or woman can look back over an active life and recall the many times that serious chances were taken, often, of course, through thoughtlessness, but more often on account of ignorance.

We can look about us today anywhere and see the hazards to the safety and actual lives of children existing apparently without care or thought on the part of parents or adults. There is hardly an issue of a daily paper anywhere that does not carry a story of an injury resulting in death to a child somewhere. One of the frequent accidents reported is the death of run-about-children between two and six years of age, caused by the backing of automobiles out of garages, at home or on the street, in which the child is killed. This is an accident that should never happen, and is due to sheer unadulterated carelessness on the part of the person backing a car. Every one who operates an automobile often shudders on driving up to a filling station for the purpose of obtaining gasoline or oil, to note how very often the operator of the station removes the cap over the gasoline tank, turns on the gasoline, and sticks his nose right down to the opening in the tank with a lighted cigar or cigarette, puffing away. Very likely within three feet of his head is a prominent notice on the tank or on the station stating "No Smoking Is Allowed." Such cars are often filled with children in the rear seat, and only a kind and merciful providence prevents more numerous explosions and deaths than are reported from this cause. Now and then a child is killed on account of falling out of an upper story window. This is another accident that should never be allowed to happen. Children from six months old to ten years should very rarely be left for a single moment away from the watchful eye of a careful adult.

We could go on and fill the Bulletin with samples of carelessness all of us see about us every day, but probably the foregoing is sufficient to call attention to the necessity for a more careful and conscientious accountability in our dealings with our children.

VIOLENT DEATHS TOP THE LIST IN CRAVEN COUNTY

Dr. D. E. Ford, the very efficient health officer of Craven County, conducts a column each week in the New Bern Times, a wide-awake weekly paper published in New Bern. Recently Doctor Ford called attention in his column to the fact that "Two of
Doctor Ford, after an analysis of the figures for Craven County for the first nine months of 1927, announces his findings to the effect that, discouraging as it is, there were two and one-half times the number of deaths caused by violence, homicides, and accidents happening in the county during the period than occurred as a result of all the contagious diseases combined, including malaria and influenza, but exclusive of tuberculosis. Doctor Ford also observes that most of the deaths were among young adults, those whose lives held more promise for the community than those of any other class.

The Editor of the *Times*, commenting on Doctor Ford's article under the editorial headline "County Health Department Strikes Sombre Note" says: "A few more such reports and our self-starting coroner's jury will have their pants rigged beside their beds like firemen—and build brass sliding rails from their boudoirs to the street—even ill winds breed efficiency. "Such statements should make the local powers-that-be ponder for a piece of heavy thinking."

**MUST THINK ABOUT IT**

"Auto accidents stun Doughton," was the headline. Hasty examination disclosed that the State Revenue Commissioner was not literally stunned in a wreck but that he is figuratively stunned on account of the number of wrecks and the fatalities and injuries resulting therefrom. Wrecks number 961 from July 1, with 143 persons killed and 1,170 injured, the Revenue Commissioner told a group of Rocky Mount business men. The Commissioner had nothing to offer by way of remedy. He suggested the usual, which is that the traffic situation "presents a problem which calls for the most careful thought and consideration of our citizenship."

The citizenship generally are like unto Governor Doughton. They view the situation with alarm when they think about it, but pass it off as something demanding serious thought, which it should have, of course. The ancient remedy for such ills is rejected. Public sentiment in so far as it is given expression is not in sympathy with strict regulation of motor traffic. It is admitted that about 99 per cent of the wrecks are due to careless, reckless driving. Occasionally municipal authorities will put on a campaign against the speeders, which means the reckless, and they are sent into the courts by the score. But presently there is a revulsion, loud complaints are made and official industry lags. The attitude of the great majority of motorists is in effect that so long as no damage results, either to person or property, the motorist should not be disturbed. In vain is it pointed out that the recklessness is preliminary to serious consequences and that the remedy should be preventive. The idea predominates that one should be punished only for what he has done, not for what he may do; and the motor people comprise so large a part of the population that the courts are governed by their attitude. The situation may get so bad that the great majority of the motor people will consent to have themselves regulated. But at present they throw up their hands, as Governor Doughton, and say we must think hard.—*R. R. Clark in Greensboro News*

**GETTING HIS ULTRA-VIOLET**

In winter as well as in summer babies and growing children need plenty of pure unobstructed sunlight.
HOME ACCIDENTS

The National Safety Council, in a report entitled "Accident Facts for the Year 1927," publishes some very interesting comments on the question of accidents. The report is divided into three general sections. The first section presents general information about the accident situation for the country as a whole. The second section deals with public accidents, and the third section presents a synopsis on home accidents.

The report explains that estimates of the number of home accidents are more difficult to make than practically any other type of accident. There are so many accidents of more or less minor character which occur in the homes and about which the public never hear. No reports are made in the newspapers or to any other agency. Often such accidents, although classified as minor accidents, develop serious consequences.

The National Safety Council estimates that in continental United States during the year 1927 that were between twenty and twenty-five thousand fatalities directly due to home accidents. They estimate that there are probably as many deaths from accidents in homes as from accidents occurring in industry. The aforementioned agency classified the causes of such fatal accidents about as follows:

One-third of all these twenty-five thousand deaths was the result of falls occurring in or about the home. A little more than one-fifth were caused by burns and scalds.

Fifteen per cent were due to asphyxiation and suffocation. Nearly ten per cent were caused by poisons. Something more than ten per cent were due to explosions, fire arms, and accidents from electricity.

The report explains that if the non-fatal accidents were classified as well as fatal accidents, there are two other great causes of importance which should be added. One is cuts of various kinds, and the other is bruises, due to the person striking against some object. The report cites the important record of Providence, Rhode Island, in which a careful record was kept of all accidental fatalities for the years, and forty-six per cent of all accidental fatalities occurring in the city of Providence were the result of home accidents.

To those of us who have the idea that all the accidents now-a-days that occur, especially of the serious or fatal accidents, are due to messing with automobiles, these figures should cause considerable sober thinking. It would certainly seem that with a little care on the part of every member of the family at all times accidents occurring in the home could be reduced to a very low minimum with considerable saving to life and health. Naturally most of the accidents occurring in the home occur among the very oldest or the very youngest members of the family. The adult guardians of these two classes should certainly realize their responsibility and endeavor to prevent such a record for 1928.

A NEW FOUNDATION FOR MEDICAL RESEARCH

It might almost be said that it is a dull day when the newspapers do not announce some new foundation for hospital building on the old Collier's Weekly plan, or for the institution of some research activities in the realm of medicine or its allied subjects.

Recently the Associated Press sent out an item from Chicago announcing a new million dollar foundation, to be administered by the University of Chicago, for the specific purpose of studying diseases incurred past fifty. This foundation is established by Mr. and Mrs. Albert D. Lasker of Chicago. The initial endowment is one million dollars, and the express purpose is "to lengthen the span of life through the study of degenerative diseases incurred past the age of fifty." Mr. Lasker, who founds this work, was formerly chairman of the United States Shipping Board, and is well known throughout the country. It is said that he has been interested a long time in medical research.

At present the American Medical Association and all the various state and county medical societies throughout the country are promoting what is termed periodic health examinations. These studies of the Lasker foundation will, of course, dovetail very nicely with the work of organized medicine everywhere in promoting the health and happiness and comfort of peo-
ple past fifty years of age. The span of life has already been greatly lengthened principally through the control of diseases like typhoid fever and cholera and other devastating plagues and through the better application in medical practice everywhere of the principles of infant hygiene. Now if to these successes may be added definite assurance of the freedom from the degenerative diseases incident to later life, the span of life for the average person may be greatly lengthened.

ORAL HYGIENE IN PITT COUNTY

At the meeting of the Fifth District Dental Society at Greenville, North Carolina, on January 16, Dr. Paul Fitzgerald of Greenville presented to the society a very interesting paper setting forth some of the efforts made by the Pitt County local dentists co-operating with the county health department of that county. Doctor Fitzgerald's report is so very interesting and some of his observations so pertinent and timely that we are herewith publishing the speech of Doctor Fitzgerald practically in full.

"In 1919 the first effort at Public Dental Health work in Pitt County was tried out; at that time the State Board of Health sent Dr. A. M. Schultz into the county for a period of three months. During this time Doctor Schultz examined 1400 school children, of those examined ninety per cent needed dental treatment; 1260 of the 1400 children examined were treated.

"Our next effort at Public Dental Health work followed in 1925 with Doctor Wooten in charge of the work. During a period of four months Doctor Wooten examined 2306 school children, 1337 or 58 per cent of this number were found to be in need of dental treatment, aside from this Doctor Wooten cleaned the teeth of the entire 2306 children which he examined.

"In 1926 the dentists of Pitt County under the supervision of the county health officer made an examination of the school children in a part of the schools of the county. At this time 1491 children were examined, of this number 1337 of 83 per cent were found to need treatment. Five hundred and twenty-five or 43 per cent were reported later to the county health office as treated.

"In 1927 again the dentists of the county examined the children in a part of the county schools, this examination was made in September and October, at this time 1985 children were examined, 1250 or 62 per cent were reported needing treatment, to date 208 or 17 per cent have reported to the County Health Office as treated.

"The figures given here indicate that from 1926 to 1927 there was a decided improvement in the condition of the children examined. Let me say that the 1926 figures showing 83 per cent needing treatment included the examination and report on all temporary teeth, while the 1927 examination reported defects in permanent teeth only, there was a marked improvement in the condition of the children examined in 1926 to 1927; but leaving out the temporary teeth in 1927 made up a great part of the difference between 83 and 62 per cent.

"In Pitt County we have 6152 white children enrolled in the public schools, the first grade comprises 1850 of this number—so you see in no one year have we had an examination of more than approximately 33 per cent of the total number of children enrolled in our public schools. From the figures recited, we find that from 80 to 90 per cent of school children need dental treatment. From five to ten per cent of school children have pyorrhea in more or less advanced stages; in some cases the children having pyorrhea were not more than seven or eight years of age. From five to seven per cent have teeth so irregular that corrective measures are a necessity. Some of the causes of the conditions found are as follows: ignorance, indifference of parents, fear of pain, lack of funds to pay for necessary treatment, lack of instruction bearing on importance of care of teeth.

"The dentists of Greenville have offered a loving cup to the grade showing the greatest improvement in the condition of the teeth from year to year; this cup was awarded last year to the first grade of the Model school of Greenville.

"The dentists of the county are doing what they can to co-operate with the State Board of Health to further the public health work of the county.

"When the State employs and sends out a dentist for public health work, he should be required to deliver a certain number of specially prepared lectures on importance
of care of the teeth, careful selection of men for this work is important.

"Adequate filing space should be provided by the State and the State Board of Health should keep files containing a complete record of the activities of this branch of its work, these files should be available at all times. There should be inaugurated some plan whereby the public may be better instructed in the importance of the care of the teeth; I believe that the County Board of Health co-operating in a well defined plan, can do more to put this idea across to the parents than can be accomplished through any other channel, and after all the parent is the keynote to the whole situation.

"Reports coming from Jackson, Miss., are to the effect, that from an examination of the school children of Jackson made by private dentists, the schools giving holidays for the purpose of treating the children in the same manner succeeded in treating 100 per cent of the children examined.

"The 43 per cent treated in Pitt County in 1926 and this examination by private dentists; may be considered a very high average and an average to be worked up to until it is surpassed.

"Owing to the short time which has elapsed since the 1927 examination, the 17 per cent reported treated cannot be considered as inclusive, this percentage will be raised before the year is past.

"This work has a bearing on the health of the community, the future earning capacity and usefulness of its citizenry; it is our task to find ways and means of carrying it forward, the dentists of Pitt County are receptive and will gladly do their part in any plan which will help to make public health work more effective."

HEALTH HABITS IN ONE CHATHAM SCHOOL

In one of the wide-awake grade schools in northeastern Chatham, situated in a typical farming section, the teachers comprising the fourth and seventh grades, inclusive, recently made a health survey of the ninety-five pupils present at the time in these four grades.

Some of the questions asked produced some definite and illuminating information. Nearly all of them reported that they slept at least eleven hours every night. Most of them confessed to the ownership of a toothbrush and its daily use. So far so good. However, of the ninety-five, fifty-eight of them said that they habitually drank coffee or tea or more times every day. Thirty-seven of them did not admit any such habit. Forty-two of the ninety-five stated that they drank at least one pint or more of milk each day. Fifty-three of the ninety-five stated that they drank no milk at all. The teacher did not secure accurate weights of these children, and hence it is impossible to state whether or not any of the non-milk-consuming children registered underweight.

One significant question and answer illustrate the ease with which definite health habits may be acquired by the children in every family once such habits become customary and the natural thing to do. The question we refer to is, "Did you wash your face and hands before breakfast this morning?" Every one of the ninety-five answered yes. This is easy to believe because all of us, at least all who have lived in the country and who were reared on the farm, know that the custom of getting up and washing one's face and hands before breakfast is just as common as the rising of the sun or the setting of the moon. It is the expected thing, and many a little chap has had to break ice or splash to the well for fresh water with which to perform this much dreaded function. Some time it will be just as common and just as easy for all the children to drink plenty of milk and to leave off coffee or tea when such things are done by all other children and become a part of the habits and customs of the people generally.

We pass these suggestions along to other grade teachers in the different sections of the State, especially in the rural schools because the very fact of asking such questions impresses on the children's mind the truth that there is a reason for asking such questions, and therefore many children will naturally inquire into the reasons for wanting and desiring good health.

Get the habit of starting each day with a good breakfast. Such a habit is especially desirable for children to acquire. The time element is important. Get up early enough to eat leisurely and without hurry.
AN INTERESTING HEALTH PROGRAM BY AN INDIAN SCHOOL

Recently the principal of an Indian school in Robeson County put on a Friday afternoon program, which could be done by every single school in the State of North Carolina without any extra trouble whatever. As described in the Lumberton Robesonian, "The stage was artistically decorated with health pictures and placards. The visitors who gathered for the occasion sat in rapt exaltation through the program, which was rich in health instruction as well as entertaining."

We have labored in season and out for many years to encourage teachers of the elementary schools of the State to adopt such programs, at least two or three times during the school year. On seeing the account in the Robesonian correspondence of this undertaking we immediately wrote to the health officer of Robeson County for more particulars so that we could pass along the idea in the hope of interesting other schools. Doctor Hardin, the Robeson County Health Officer, responded to our request with the following description of how easily and simply the program was carried through, and we might add how effectively, as testified to by the correspondent in the Lumberton paper.

"The teacher came to the Health Department and asked for pamphlets on the various diseases. Recently his turn came to put on the weekly program for the literary society of his school; so he gave each of the eight children who were to take part in the program, all the pamphlets he had on a particular disease, and asked them to read and study the pamphlets. The afternoon the program was put on the secretary would call a child's name; and state his subject; say diphtheria; the child would come forward and tell what he had learned about diphtheria, stressing the important points; when he had finished another would be called for his subject, and so on until diphtheria, measles, whooping cough, common colds, bed bugs, flies, cockroaches, etc., were covered. Many health pictures and placards were hung on the stage."

Who could doubt the effectiveness of such an arrangement? There are enough subjects and enough information on different disease problems in the Monthly Health Bulletin each month of the year for any interested school to put on a varied and comprehensive program. No one could possibly doubt the effectiveness of such health teaching. The eight children taking part in that program, studying intensively a certain disease program and having to get up before the rest of the school and the visiting parents and neighbors and explain what he or she had learned, will never forget the information as long as life lasts. It is not only impressive, it is easy to do. It is practical. It is interesting, and it is entertaining.

In addition to the regular Monthly Health Bulletin, the articles of which are easy to adapt to any such enterprise, the State Board of Health is ready at all times to supply, free of charge, to any interested teacher special pamphlets and bulletins on different subjects. This can be done through the organized whole time health departments in counties where such departments exist, and for the sixty-three counties of the State that have no organized health department, a postal card directed to the Health Education Division of the State Board of Health will promptly result in securing the necessary supply of literature. When such a program is contemplated the literature should be requested several weeks in advance so as to give ample time for the receipt of the matter and for its study by the pupils involved.

A TRAFFIC SUGGESTION

A Birmingham newspaper has heard that cholera killed one million five hundred thousand hogs in the United States in one year. The paper goes on to wonder if there could not be some way of giving cholera to the road hogs that monopolize the highways and endanger the lives of all other travelers.

We pass this suggestion along to Professor Hostetter and his associates out at State College. Of course we understand that their investigations cover the ground of prevention of diseases of hogs, but they might be able to offer some suggestion to the highway traffic officers, if there were such officers, on the big highways in the rural districts of this State.

Our own opinion and observation on the doings of the road hog and the death and destruction he inflicts on all the other motor travelers is that about the only treatment that would be effective with him would be some large doses of electricity for a few of them.
PNEUMONIA

Pneumonia is one of the most serious and one of the most frequently fatal of any of the acute diseases generally present in this State. Deaths from pneumonia occur in any month of the year and are liable to occur in any section of the State, but the months of February and March usually record more deaths than any other period of the year.

In the State of North Carolina last year, that is, 1927, 2275 persons died from this disease. The reports recording that number of deaths had been sent in to the Bureau of Vital Statistics of the State Board of Health up to the middle of January. It is probable that this number will be increased by the addition of a few delayed reports. Thus, any one can see by noting these figures how serious and important a disease it is and that everybody in the State should have concern about it. To afford a comparison that is easily understood, it is well to mention that about eight times as many people died from pneumonia as died from typhoid fever during the year.

In the past it has been supposed by physicians, as well as the general public, that the majority of people who contract pneumonia do so as a result of infection carried in the mouth for long periods of time and which only becomes active when a kind of so-called resisting power becomes lowered from any cause. These opinions and assumptions, however, have not stood up in the face of scientific investigation.

The most recent and reliable investigations on the subject of pneumonia which have been carried out by responsible investigators indicate that nearly all cases of pneumonia, certainly a large majority of them, arise from infection contracted from direct contact with other people who have the disease or have recently recovered from it. In other words, the theory of resistance does not amount to so much in face of the number of facts that the investigators have found indicating that the infection is active and easily spread from the sick to the well. This is in line with the common sense observation of observing people all the time, and that is that in numerous instances in the knowledge of everybody it has been noted that very frequently more than one member of a family succumbs to an attack of pneumonia soon after the first member contracts the disease. This is especially true of what doctors know as the virulent types of pneumonia.

There are two general types of pneumonia. One is what is called lobar pneumonia, involving a part or all of one or both lungs, and the other type is bronchopneumonia, which is a type frequently met with in very old people or babies. This type is often localized in some single spot in the lungs. Genuine lobar pneumonia is always caused by the presence of a germ known as the pneumococcus. Some four distinct types of this germ have been isolated by laboratory workers, but about three-fourths of all pneumonias have been found to be due to only one or two of the types of infection.

These virulent germs are very seldom, if ever, found in the mouths of healthy individuals, and only so in those peculiar individuals who become carriers of the disease, remaining healthy themselves but dangerous to other people, just like certain people are typhoid carriers or diphtheria carriers. It is fortunate that such people are very rare, comparatively speaking. Investigators have found that these active types of germs are very frequently found in the mouths of other members of the family or nursing attendants who are in direct hourly contact with pneumonia patients. Such persons frequently may not contract the disease themselves. For some unknown reason they have immunity just as many people come in contact with diphtheria or scarlet fever and yet do not contract the disease themselves. Just why some people have this immunity and some do not is not at present known.

A few years ago the city of Pittsburgh, Pennsylvania, passed an ordinance requiring the quarantine and reporting of all cases of pneumonia, and the quarantine or isolation of the patients just as any patients suffering from scarlet fever or diphtheria. The authorities there did this on the ground that they believed pneumonia to be spread through direct contact. It is said, as a result of this move and the precautions necessarily taken, that the death rate from pneumonia in Pittsburgh has shown some decrease.

It is a good rule for persons who have no business around sick people except to be neighborly or to gratify the curiosity, to stay away from sick rooms, no matter what is the matter with the patient. This
habit should not be carried to extremes which would cause neglect and suffering on the part of many patients. Any relative or friend or nurse or physician, of course, should not hesitate to render whatever service is necessary to any sick person. The habit, in days gone by at least, of people in isolated communities gathering around in the homes of sick people, especially in the winter time, has undoubtedly caused an excessive number of deaths from pneumonia as well as possibly other diseases.

Nurses and relatives caring for persons sick with pneumonia can decrease their liability to contract the disease themselves through the simple habits of cleanliness; that is, burning all the expectoration from the patient and thoroughly boiling all bed clothing or towels and such things used in connection with the patient. These things can be done without delay. The room can be kept clean with fresh air available, all of which conduce to the comfort of the patient and so aid in pulling any patient through a crisis.

One of the habits that everybody more or less is guilty of and which is a pernicious and dangerous habit is promiscuous spitting on the streets and everywhere. This is purely a habit and ninety-nine times out of one hundred is unnecessary. There can be no doubt that some infection is spread in this way, although it may not be anything like as much as at one time was thought to be the case.

Another thing in which everybody can help is to cover the cough and the sneeze. Loud and unnecessary talking which suffices to work like a battery in broadcasting the germs to innocent bystanders should not be practiced.

It will be noted that we have said very little about the reduction or the lowering of the body resistance, and we have omitted this because we know very little about it and we do not believe anybody else knows very much about it either. We do know, however, that intemperance or excesses of any kind which attack bodily strength can result in no good, and may often result in serious consequences to people who so thoughtlessly infract the laws of good health.

NAMING THE BABY

We are publishing below an editorial synopsis of an article by George R. Steward in "Children, the Magazine for Parents." The article is about prevailing fashions in names. The summary by the editor of "Children" is interesting.

When shown a copy of the "Children's" editorial, Dr. F. M. Register, Director of the North Carolina Board of Health Bureau of Vital Statistics, said while the article was very interesting he would like to add a supplement. So, here is Doctor Register's comment in the form of a request:

"The Bureau of Vital Statistics is not interested so much in WHAT you name the baby, but is vitally interested in WHEN you name the baby.

"The baby should be named as soon as it is born, in order to assure the name appearing on the birth certificate.

"The policy of procrastination and 'dilly dallying' on the part of parents has caused the Bureau of Vital Statistics to have on hand thousands of certificates with no given name on them. Simply—baby Brown or baby Smith or whatever the surname happens to be.

"This thing often happens even though the Bureau of Vital Statistics has sent out thousands of letters and cards in an effort to complete incomplete birth certificates.

"If parents will not name their babies, there is no law to compel them to do so, but we implore parents not only to name the baby, but to do it NOW."

The editorial from "Children" follows:

"If you were to call 'Mary' in a voice that could be heard from Maine to California an army of 2,000,000 women and girls would answer to that name, according to an article, 'What's in a Name?' by George R. Steward, Jr., in 'Children, the Magazine for Parents.'

"Mr. Steward, a member of the faculty of the University of California, has just completed a survey which also shows that should the same imaginary, far-reaching voice call 'William' the air of these United States would echo with 2,500,000 'Aye, aye, sirs.'

"But even though these good old-fashioned names are still answered to by vast majorities, Mr. Steward predicts that in the future there will be an overwhelming crop of Anitas, Glorias, and Constances to mark the popularity of movie stars in our generation. For Mr. Steward has discovered that there are fashions in names. In 1905
Mary led the list one in fourteen. Today the Marys are gradually giving way to Elizabeth, Dorothy and Marie. In 1905 Anna, Grace, Emily, Alice, Caroline, May, Emma and Mabel were popular, but today they are decreasing in popularity.

"Occasionally there is some more direct reason for these fashions in names. Take Edna for instance. With no preceding history of account it leaped into popularity about 1870, soon after the publication of 'St. Elmo,' whose saintly heroine was named Edna Earl. Since the war, for example, there has been a regular deluge of Jean and Joan, drawing no doubt from the heroine of France. Dorothy has recently had a surprising career. Among many hundreds of girls born about 1875 I failed to find a single one of that name. About 1885 something started it going and since then it has boomed like a Western town.

"The author warns against using fickle names, reminding parents that 'names, despite Shakespeare, are an important part of personality.' When a name grows out of date, a girl can't change it and parents will regret that they have given it to her. He also advises that names rapidly rising in popularity be avoided. 'Your child will grow up as one of a crowd, instead of with a distinctive name of her own,' he says.

"The social distinction of names has been more or less realized but the author has put it on a statistical basis. Bridget has come to mean a cook, because at one time most of the kitchen help was Irish. Dinah and Chloe seem to mean colored mammys, while Geraldine and Alfreda seem to demand a Lady in front of them. Men's names seem to show no social graduations, like women's. James has long been popular for coachman or chauffeur; and everyone calls the Pullman porter 'George.' Nevertheless James and George go on being as popular in good society as anywhere else.

SEASONAL PREVALENCE OF TULARAEMIA

Seasonal incidence of cases of tularemia, according to the United States Public Health Service, is due to the seasonal variation of three sources of infection, tick bite, fly bite and the dressing of wild rabbits, but owing to the overlapping of these influences, cases have occurred in the United States in every month of the year. The great reservoir of infection and the greatest source of human infection from tularemia is the wild rabbits, jack, cottontail and snowshoe varieties, but owing to the agencies of blood sucking insects common to rabbits and man, we find cases resulting from tick bite and fly bite.

Of the rabbits offered for sale in the Washington, D. C., market in the winters of 1923, 1924, and 1925, Dr. Edward
Francis of the Public Health Service examined the livers of 1,000 and found nine, or slightly less than one per cent, infected with tularemia. The liver and spleen of an infected rabbit are studded over the surface with small spots varying in size from that of a pinpoint to one-sixteenth inch in diameter. Of 22 cases of tularemia in Washington, 17 of the patients had dressed wild rabbits bought or sold in the market, four had dressed rabbits shot nearby, and one had dressed a rabbit which he had killed with a club.

Four hundred and twenty cases of tularemia have been reported, of which 17 have died. This places the mortality at about four per cent. These figures embrace only the cases which have been reported to the Public Health Service, but considering the newness of the disease, they probably represent only a portion of the actual number of cases and deaths.

Cases have now been reported from Japan, from the District of Columbia and from 37 States. The nine northeastern States, being the only significant portion of the United States in which cases have not been recognized.

As a rule when the infection has come from a rabbit some injury has been inflicted on the hand while dressing the rabbit, although a manifest injury is not necessary for infection to occur. Usually an ulcer develops at the site of infection accompanied by enlargement of the lymph glands which drain the ulcer. Fever is always present and continues for two or three weeks. The site of infection from tularemia may be located on any part of the body other than the skin of the hands, if due to tick bite or fly bite. The diagnosis of tularemia is confirmed by a blood test. One attack confers immunity in man. Rest in bed is the most important treatment. The enlarged lymph glands should be opened only after pus has definitely formed.

The infection has never been found in nature in domesticated rabbits raised in rabbitries.

No preventive vaccine or curative serum has yet been perfected, nor has any special drug been found effective against tularemia.

Rabbit meat thoroughly cooked is harmless for food, and it has been found that a temperature of 56° Centigrade, of 133° Fahrenheit kills the germ of tularemia. The ordinary disinfectants are effective. Rubber gloves should be worn by those who dress wild rabbits. Immune persons should be employed to dress them where possible. Infected rabbits, kept frozen for thirty days, have been found to be free from infection. Market inspection of rabbits is impracticable, because only about ten per cent of the rabbits found in the market still have the liver in place.

Beware of the wild rabbit which the dog or cat has caught, or which a boy has killed with a club,—it is probably a sick rabbit. The hunter should not shoot his rabbits at the point of his gun. Let him be a sportsman and shoot them on the run at 75 yards, say, and the chances will be lessened that the rabbits he bags will be sick with tularemia.—United States Public Health Service.

COMPULSORY TUBERCULOSIS INSURANCE IN ITALY

Some time ago we learned through the news dispatches that the Italian Government had recently issued a decree compelling compulsory insurance against tuberculosis. This insurance is to apply to all manual workers, of which it is said there are more than seven millions in Italy.

The principle is something on the order of our railroad health departments. A small reduction is made from the salary of each worker every month and paid into the insurance fund. A like amount is required from the employer, so that the worker and his employer carry jointly, share and share alike, the financial responsibility.

They have planned an equipment of twenty thousand beds for the first ten years of the operation of this law. Under this decree any worker in Italy who is participating in the plan, and that means all of them, will have immediately accessible a bed in a first-class sanatorium with all medical attention, nursing, and all essentials for his recovery provided from this fund free of charge to him or his family.

This would seem to us to be a practical plan which would result in very material benefits to a great body of the population of any country which has to suffer materially when stricken with chronic disease requiring a long period of medical care and nursing before recovery can be expected.
URGES PHYSICAL EXAMINATION IN ABSCESSED TEETH REMOVAL

“A careful examination of the patient’s general condition would be made before removing abscessed teeth,” says Dr. Richard Dexter, in the Ohio State Medical Journal. Many times the removal of such teeth sets up an acute infection in the abdomen, the kidneys, the heart, or a general septicemia develops, often with fatal results.

Doctor Dexter warns especially against wholesale extractions in elderly persons. He considers the two most important factors to be the surgical technique used for the extraction and the condition of the patient.

“Given a careful technique with a minimum of trauma, wherein not more than one or two teeth are taken at a time, no serious results should follow. In those cases in which resistance is lowered by chronic wasting diseases, the removal of infected teeth should be approached with all the judgment and care possible. No teeth should be removed until a careful study of the individual has shown on the one hand that the teeth are a menace, and on the other, that the patient is in a condition to withstand such an operation.

“Observation and study have convinced me that the abscessed tooth is a potential focus of infection, and further that each and every root filled tooth is to be considered as a possible source of infection. I believe that teeth should be removed, but I feel that a warning must be given against the indiscriminate pulling of infected teeth. Study of the case must precede the decision that the teeth are to be removed, and the extraction must be performed in a gentle and conservative manner, to the end that the attempted cure shall not precipitate serious or fatal results. Let us remember that the rough or careless removal of abscessed teeth is fraught with just as great danger to the patient, as is roughness or carelessness in any other surgical procedure. It is high time that the physician and the dental surgeon joined together to study this problem, in order that we may learn how to avoid these unfortunate results, which I believe are vastly more common than the literature would lead us to suppose.”—The Nation’s Health.

MORTALITY CALLED PRICE OF BRAINS BY DR. CARREL

Although the human body in its elemental cells is potentially immortal, it will always be subject to senility and death as the price that it pays for having a brain. Dr. Alexis Carrel, of the Rockefeller Institute for Medical Research, New York, speaking before the Race Betterment Conference thus passed sentence upon the human hope of the eventual banishment of death.

Since Doctor Carrel has shown that human and other animal cells can be kept alive and made to grow indefinitely if they are removed from the body, tended and fed, this judgment is made on the highest authority. The same famous technique that he developed for cultivating in the test tube the chicken embryo heart tissue, that now after sixteen years would have reached a volume as large as the whole solar system if it could have grown unrestrictedly, has been applied to human flesh to show that it is capable of living forever.

Yet the cells will grow forever only if kept under more favorable conditions than the body affords. They must be fed what might be called the essence of youth, embryonic proteins and they must be removed from the restraint that the highly organized body and brain exercises.

“The only living forms enjoying eternal youth are the colonies of unicellular organisms which eliminate their metabolic products directly into the outside world,” Doctor Carrel said. “When an animal is composed of a mass of cells organized as a closed system, the process of aging necessarily takes place. Immortality is incompatible with organization.”

The price of brains, death, is not excessive, Doctor Carrel believes, because “the mysterious energy which is created by the cerebral cells, or expresses itself through them, is after all the greatest marvel of this universe.”

There is hope that the duration of life may be artificially increased through the application of the results of experiments upon living cells and in nutrition, although Doctor Carrel’s own findings can not yet be so applied.—Science News Letter.
TRACHOMA

Not infrequently a case of trachoma is reported to the North Carolina State Board of Health. Nearly always such patient is found among the smaller school children of the State and is thus reported as having been discovered through some examination work among school children. Fortunately there has never been much of the disease in the State, but there has been enough to excite considerable uneasiness in any community where the disease is found to be actually present. It is a serious eye disease, and when neglected consequences are bad for the patient.

In a recent report covering the activities of the United States Public Health Service for the year 1927 Surgeon General Cumming has the following interesting comment concerning trachoma.

"The puzzling disease trachoma, still distressingly prevalent in certain parts of the country, has been the subject of two distinct researches during the year. In one the search for the microscopic cause and possible means of cure has been carried on in the laboratory. In the other it has been sought by painstaking collection of data at the homes of those afflicted, to learn more about the natural history of this disease and the means of its spread."

BIRTHDAYS

It has given me a shock, in my school work, more than one time to have a child apparently ten or twelve years old say "I don't know" when asked his age. It does not happen so often now as it did six or eight years ago. Compulsory school attendance has changed that. When making out the child's card I often cannot find out the birthday. One six year old blue eyed urchin when asked "Don't you even know what month?" replied "Corn planting time." Another "Fodder pulling time," another "Tobacco priming time." We are essentially an agricultural state, you know.

I have suggested to some of the small schools, at the time, to do as the Sunday Schools. When the small children have a birthday make some mention of it by putting it on the black board as in making a calendar or any other way to get them to know their age and birthday.

It seems too bad for little children not to know the joy of having a birthday. To them Christmas cannot mean the same.

Of course when we get older we may be glad to forget about birthdays but I think if children are not told their birthday at home it should fall to the school to do this just as they have to teach other things which should have been taught before the school age.—By a School Nurse.
BAIT FOR SICK SUCKERS

Do you feel bloated after eating, and have shooting pains in the stummick, and becoming dizzy after gazing over a precipice? If so, you should take Doctor Killem's New Discovery for Pink People. For sale by all un-reliable druggists and book stores.

Do you have bad dreams after eating pork chops, and feel all run down when you have played bridge only five or six hours with unstinted continuity? Do you gulp your food, and drink coffee? This condition forebodes epileptic fits, and possibly fallen arches. Doctor Chokem's Vegetable Compound for Wild Women will put you straight. Sold by all reliable foot peddlers and bill collectors. Terms ten cents down, balance at the cemetery.

How's your liver? You belch, don't you; after chewing Brown's Mule, and eating pigs knuckles, and drinking home brew? Don't you stare at flappers, talk in your sleep, dodge your landlord, and eat between meals? It will take only two bottles of Doctor Swindler's Digesto according to directions, and good health is yours. Mrs. Spooksdoodle couldn't eat but eight biscuits before she took "Digesto," but now she eats all she wants. It helped her husband also. It is good for both man and beast. Send two dollars for a trial bottle.

Does your wife disagree with you? Do the girls shun you? Did you know that Hallie Tosis leads one to the grave? Does your head swim and your nose run and your heart flutter and your kidneys wiggle when you lean forward or backward or sideways? These are sure symptoms of galloping consumption, or Anti-geodometric incipiencetis of the cere-monoosity of the inter-sarcenition of the per-enial gland which supplies gastric juices to the lower intestines. Nothing within reach of mankind today will cure this malady except Dr. Hitten Hard's Thornberry Juice with Sallie-Patica base. For sale at all bootleggers.—Gee McGee in The Progressive Farmer.

STUTTERING AND LEFT-HANDEDNESS

There are a number of recorded instances of the onset of stuttering when a normally left-handed child is coerced into using the right hand for writing, and of recovery when the use of the left hand is permitted.

In calling attention to this in Archives of Neurology and Psychiatry, Doctor Orton gives the story of a college student, aged eighteen, who was naturally left-handed and who had been permitted to use the left hand in writing during the first two years in school. In the third grade he was required by the teacher to shift to the use of the right hand for writing and other activities. In the following year he began to stutter and was a moderately severe stutterer until his freshman year in college when he was referred to the psychopathic hospital by the Department of Speech of the State University of Iowa. When tested in writing with either hand, it was found that even after nine years of practice with the right hand, he had a markedly greater facility with the left. He was then advised to make an effort to use the left hand for everything. Rapid improvement in speech resulted and within seven months the stuttering had entirely disappeared.—Good Health.

POLLEN THERAPY

The commercial houses who manufacture and sell biological products are increasing more and more their products in the field of pollen therapy. Nearly all of them now have on the market a bewildering array of material for tests and for treatment of pollen infection.

As hay fever and allied conditions comprise a group of infections that are troublesome to a multitude of people, the general public is very much interested at all times in the progress of scientific medicine in this field.

Dr. Ray M. Balyeat, an instructor in medicine in the University of Oklahoma Medical School, has made an intensive and prolonged study of the factors which determine the pollen content of the air. He has paid special attention to hay fever and asthma. Doctor Balyeat assigns three reasons for failure in pollen therapy.

Physicians who have experimented with these treatments, as well as patients who have received some of the treatments without satisfactory results, will be interested in the reasons for failure as set forth by Doctor Balyeat.

1st. Correct pollen or pollens are not chosen for treatment.

2nd. Potent extracts are not used and treatment is not carried through the season.

3rd. The tolerance dose for each individual is not determined.
BOOK REVIEWS


The authors of this book have prepared a manual which teaches and supervisors of public schools and all persons interested in health education will find valuable.

The teachers of this State will recall that in 1924 Doctor Wood issued his "Report of the Joint Committee on Health Problems in Education," which represented the work of a large committee from both the American Medical Association and the National Education Association. This is a 159-page pamphlet constituting a program for public schools and teacher training institutions and which has been supplied to all the teachers of North Carolina who desired it. This has been done free of charge by the State Board of Health.

In this new book the authors have been able to bring to bear a vast amount of available experience in this line of work. It is specifically a manual for teachers and has been issued by the authors after several years work and preparation. The authors advise that it is really an outgrowth of the scale of health habits set up in the "Report of the Joint Committee on Health Problems in Education."

The book is brief, but it suggests the activities which should be included in any scale of school health work. The suggestions offered in condensed form may be expanded to cover any activities necessary in presenting a comprehensive course in health teaching for any school. The book deals in health problems which confront us and the habits as well as the attitudes; and the knowledge that is necessary to possess to solve these problems.

The book is not a text book for children, but, as stated above, is designed specifically for teachers. The material is attractively presented, and with very little study on the part of the teacher is easy to present, and should arouse the interest of children in forming important health habits at an early age.


The authors state that this book is a response to the continual demand made during recent years for a printed text on the natural program in physical education which has had its beginning in America, at least, in the Department of Physical Education, Columbia University.

The authors begin this excellent book by quoting Dr. Richard C. Cabot to the effect that the worst features of the different systems of physical education is that they tend to become chronic and therefore fall into useless routine and become morbid.

The authors point out that the great movement in physical education, which has spread rapidly over this country, took tangible form less than two decades ago.

The book states that physical education has been too much occupied with formal exercise and that some of the objectives seem to have been in the past directed toward training the body too much within itself. In short, the bigger and better muscles have demanded too much attention.

The subtitle of this book is "A Program of Naturalized Activities for Education toward Citizenship." Thus it will be seen that the "New Physical Education," as outlined for teachers and advanced students, in this book is based on a much broader conception of what physical education is and what it may do for the individual than has heretofore been regarded necessary. The authors state that the program, being a naturalized program, is still in a state of growth and always will be.

The book carefully avoids the use of word "system," and in its place is substituted what the authors call "A Program of Physical Education Activities," and this program is designed to be adapted to the needs of each individual and each group of individuals forming a community, a state, or a nation.

About the finest thing in the book is that it omits the traditional course of study with directions for daily practice grade by grade. It leaves to the initiative and ingenuity of the teachers complete freedom to develop methods suitable to individual needs. Not only is the teacher free to exert intelligent leadership, but the same incentive is held out before the children who, after all, are the ones to most benefit by this program.

Thoughtful teachers concerned with the protection and development of the health of their pupils will find each of the books very helpful.
"Stop watch" methods in the promotion of educational efficiency in the schools is severely condemned as detrimental to the mental health of the child by Dr. Garry Cleveland Myers of Western Reserve University in the current number of Mental Hygiene, quarterly journal of the National Committee for Mental Hygiene. School psychologists with their multiplicity of mental tests, the curriculum expert who adds more and more new things to be learned by the child, textbook writers who build their books for pupils around the stop watch, teachers and supervisors, all come in for drastic criticism in Doctor Myers' discussion of the evils of over-emphasis on the time factor in school instruction. "The 'efficiency' movement," says Doctor Myers, "is gathering a momentum that seems to be almost irresistible. The psychiatrist is confronted by concrete evidences. Parents are beginning to express themselves. Within a few years they are going to register a very vigorous protest. But educational writers still are almost wholly on one side. They practically all are speed propagandists, and they are practically the only ones who can correct the difficulty."

"Researches in the learning field are beginning to appear which point to some of the educational expert's fallacies. Although he has been assuming that the way to get speed is to hold the stop watch on the child, he never had available conclusive scientific evidence in support of this assumption. On the contrary, there are now available scientific data which pretty clearly demonstrate its falsity." In substantiation of his claim, Doctor Myers relates the results of a study he has recently made of the subject. It was found, he said, that learning, when accuracy was emphasized, produced greater speed than when speed was emphasized. "The reason that our children work so slowly is because we try to make them work so fast. If emphasis is put upon accuracy and the learner has a comfortable atmosphere in which to work," Doctor Myers states, "speed is sure to follow. Then why all this human torture to the school child only to produce inferior learning products?"

Speed has come to be so highly valued above other considerations, he says, that today schools and teachers are rated largely on the speed with which their pupils can perform on certain standard tests. "Obviously some of the results of this procedure (of mental measurements and achievement standards) have been good. But in the effort to bring the pupil up to the required standard, certain pernicious practices have developed. School experts and teachers have come to assume that the way to get speed in the performance of school work is to force the child to hurry. So the stop watch has been seized upon as the magic instrument. School supervisors and test experts have trained teachers in the devising of innumerable home-made tests which nearly always are speed measures. There are but few arithmetics, for example, among those that have appeared in the past five or ten years, that do not have time exercises on almost every page. The child recites by the stop watch and he studies by the stop watch. But he doesn't hold the watch. Something certainly happens to the nervous system of a good many children under such conditions which does not promote their physical and mental health.

"The teacher, harassed by numerous reminders of the importance of speed, becomes nervous and oversensitive about the passing of each moment while the child is trying to recite orally. She gives most approval, as a rule, to the child when he answers quickly; she betrays annoyance when he pauses. If he breathes twice before he makes reply, he may read in her movements and facial gestures grave discomfort; in the meantime, up go the hands of many of the child's classmates. They are vying for attention. They are wishing that the child attempting to recite may fail, so that as he fails, they may be allowed to demonstrate their excellence. Upon the fallen body of their comrade so
they climb to win approval. But the reciting pupil, rather than have them profit by his seeming loss, ventures some reply; if he does not know, he guesses. When the modern schoolroom is running at its 'best,' as approved by many a supervisor, it is at its worst from the standpoint of mental hygiene, from the angle of efficiency of learning. Be it remembered that any child learns best when he is most nearly comfortable. Obviously, too, the modern mania for speeding furthers intellectual dishonesty and impairs the pupil's personality.

After expressing hope in the "progressive education" movement now under way and some improvements in educational practice that have already resulted, Doctor Myers advances the following suggestions as specific remedies for the situation described:

1. First recognize that the most effective learning presupposes a comfortable learner.
2. Let the educational testers call a halt to their testing program. Some of them should be given a leave of absence with pay for a year or two until the teachers and their children have an opportunity to quiet down.
3. Remove all speed suggestions from the schoolroom. Assemble all the stop watches of the school except those used for experimental purposes, and have them annihilated. Persuade the writers of textbooks to cease to put timed lessons in the pupil's books. Substitute accuracy and calm for carelessness and haste.
4. Let supervisory schemes be simplified. Let the supervisor cease to be a peddler of pet methods and become, instead, a salesman of the psychology of learning. Let her purpose be to study how the pupil learns and to inspire her teacher also to study him from this point of view.
5. Let more be done to relieve the teacher of unnecessary work and to encourage her to introduce more human touches into her teaching. Let her be given guidance and materials that will enable her to reach the individual pupil. The development of individual-instruction exercises for self-teaching are in the right direction, for in addition to relieving the teacher of much drudgery, they allow the pupil to progress at his own speed and show him how to teach himself.
6. Let those responsible for the curriculum lesson the number of specific facts and skills which the average child is supposed to master in a given time. Let there be considerable cutting down of the requirements for the slower pupil. All along the line, from the first grade through to the university, there should be more differentiation, so that instead of one diploma for each high school and college there shall be several, each of which shall stand a very definite accomplishment defined thereon.—Bulletin Nat. Committee Mental Hygiene.

**PREVENTION OF SMALLPOX**

There are three things which will prevent smallpox from gaining a foothold:

1. The vaccination of all babies within the first few weeks of life. No child should reach its first birthday without having been vaccinated. Vaccination may safely be given on the very first day of life.
2. Revaccination every five years. A successful vaccination will last for at least five years. Some last much longer but there is no assurance that they will do so and the only means of finding out whether or not protection has gone is by being revaccinated.
3. A rule on the part of employers insisting upon the vaccination of all new employees and the revaccination of all employees every five years. Such a rule requiring the vaccination of prospective new employees is of the utmost importance in protecting the city against a possible outbreak of smallpox because as a rule the disease is introduced by new comers and since these new comers seek employment such a rule is the only sure means of assuring ourselves that these men are protected and will not be a constant source of danger to us.—Detroit Health Bulletin.

**FLU EPIDEMIC UNLIKELY**

The probabilities that the influenza epidemic now ravaging in Japan will afflict this country are not great, in the estimation of public health officials. Until this disease appeared in Japan the world in recent months had been comparatively free from it. The epidemic is expected to die out with the coming of spring and the warmer weather that checks the respiratory diseases.

Fall and winter are the influenza seasons and unless this tricky disease takes a new turn, health specialists consider a spring and summer epidemic unlikely. As the spring is now further advanced in Japan than in this country, reports of the subsidence of the epidemic are expected shortly.—Science News-Letter.
IN YOUR YOUTH
WHAT YE SOW-

DISOBEDIENCE
TO LAWS
OF NATURE

BOOZE

PLEASURE
FIELD OF
THE WORLD

SO SHALL YE REAP-
IN LATER YEARS.

IF I HAD
ONLY
KNOWN-

FAILURE
DESTRUCTION
BAD
HEALTH
SORROW
DISAPPOINTMENT

WOODLIEFFO
NEW HOME OF THE NORTH CAROLINA STATE BOARD OF HEALTH

Readers of The Bulletin are invited to visit the offices of the State Board of Health at any time while in Raleigh. The new offices of the Board are situated at the southwest corner of Caswell Square, at the intersection of Jones and Dawson Streets.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils
Cancer
Catarh
Care of the Baby
Constipation
Colds
Clean-up Placards
Chickenpox
Diphtheria
Don’t Spit Placards
Eyes
Flies
Fly Placards
German Measles
Hookworm Disease
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Scarlet Fever
Smallpox
Teeth
Tuberculosis
Tuberculosis Placards
Typhoid Fever
Typhoid Placards
Veneral Diseases
Water Supplies
Whooping Cough

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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NEGRO DEATHS IN NORTH CAROLINA AND ILLINOIS

In the opinion of the editor of The Health Bulletin a most interesting item published in the Journal of the American Medical Association appeared in the February 11, 1928, issue of that publication. Here is the item quoted in full from the weekly symposium under the general heading of Medical News:

“ILLINOIS

“NEGRO DEATHS NEARLY EQUAL BIRTHS

“Only 104 negroes are born in Illinois for every hundred negro deaths, according to the state health director, while 183 Caucasians are born for every hundred deaths. The mortality rate among negroes in Illinois averages nearly 25 per thousand a year, more than double the death rate in the white population. In 1925, there were only 94 more negro births than deaths in Illinois and the ratio has not changed. The difficulty is not a low birth rate, as it has averaged about 25 per thousand of negro population for several years. On the other hand, the death rate among infants averaged more than 140 per thousand, while among white children less than one year of age it was about 70. The negro is particularly susceptible to respiratory diseases. In 1924, for example, pulmonary tuberculosis caused 323 deaths per hundred thousand among negroes in the state against a rate of 81 in the state at large. In that year, the rate for pneumonia was 330 among negroes, and in the state as a whole, 83.”

The alert North Carolinian can readily understand the significance of the foregoing figures. For many years the local and State health officers throughout the South have complained that the negro death rate problem in this section has not received the sympathetic consideration from their Northern brethren that the facts justified. The so-called high death rate among our negro population has been used against us and our section in many ways. It has been taken too much for granted that the white leadership of the South was primarily responsible for the disparagement against the negro. It is, therefore, refreshing to be able to draw some definite comparisons from the Illinois figures. In the first place we may note that the negro population of Illinois is at this time probably about one-fourth as large as the negro population of North Carolina. It is said to constitute so large a percentage of the population of the city of Chicago as to hold the balance of political power. So the percentage of negroes is certainly large enough to constitute a definite problem for them. In North Carolina the problem has always been the high birth rate among the negroes causing a high infant mortality. Thus in Illinois for the year 1925 as recorded in “Medical News” of the Journal only 104 negroes were born for every 100 that died. The same year in North Carolina slightly more than 200 negroes were born for every 100 that died. While the negro death rate in Illinois was more than twice as high as the white death rate; in North Carolina for the same year the negro death rate was only about fifty per cent higher than the white. Illinois does not complain of the negro birth rate being low, but on the other hand says it is high, having averaged about 25 per thousand of negro population for several years. During the same year in North Carolina the negro birth rate was 31 per thousand of negro population. In Illinois, so goes the report, the death rate among infants under one year of age was about 70 for white, against about 140 for negroes. In North Carolina the infant death rate among white children of the same age group was a little less than 67, while the negro rate was slightly less than 106. Finally, in Illinois the general pulmonary tuberculosis death rate for the total population was only 81 compared to 323 for their negroes. In
North Carolina the general rate for the total population was 89 compared to 154 for our negro population. It may sound like something of a coincidence to add that in 1925 the general death rate in the States of Illinois and North Carolina was identically the same—11.5 per thousand population. Although we are not especially proud of some of our record which we confidently hope and expect to improve, we confess to a sense of deep satisfaction to be able to measure our success against that of a sister state of the importance of Illinois, and in so doing to lose nothing by the transaction.

In the language of an old boyhood friend “the fact of the business is” that when the war between the states finally struggled through to its weary close in 1865 there was a white population in North Carolina of “physical peasants” about twice as large as the negro population of freed slaves. These poor whites could have boasted some of the best blood of the Caucasian race, but they were physically, financially, and mentally impoverished and their position in the body politic for many years following the war was much worse than the former slaves. The more we study this period of North Carolina history the greater is our amazement that the last carn one of us, negroes and all, did not die of starvation and pestilence. The science of public health and preventive medicine knows no barriers, national, state or racial. It has no prejudices to live down and no fallacies to support. It is interested in Truth alone. And truth although often unduly delayed always wins in the long march of the centuries.

**BOGUS HEALTH ORGANIZATIONS**

Nearly two years ago the *American Medical Journal* described in detail and fully exposed an organization known as the “National Health Service.” At the time this was said to be an organization “capitalizing ignorance of diet, hygiene and medical science.” At the head of this so-called organization was the name of a doctor who, twenty years ago, was a man in good standing in the profession, a graduate of Johns Hopkins, but who, on the way down to the depths, became involved in the operation of a blind-pool house, and was sentenced to the Federal Penitentiary for four years. After serving about two years of the term, through the influence of a well-known United States Senator from New York and other friends, he secured his parole. Coming back to business at the same old stand, but being careful this time to avoid a run-in with the Federal authorities, we find this man supposedly at the head of this same so-called “National Health Service.” It is still selling the “Book of Health,” in which such items as carrots being proclaimed as a “blood purifier and nerve tonic.” Garlic is referred to as an antiseptic, and impure candy is said to be the cause of diseased tonsils in children. About two years ago the United States Public Health Service was forced to take measures carefully setting forth the fact that this so-called “National Health Service” was in no way related to the United States Public Health Service or the Federal Government. The necessity for this arose because this organization was advertising itself as having headquarters in Washington, D.C., and known as the “National Health Service Bureau.” Such a device, of course, was calculated to fool anybody not taking pains to make a special inquiry. It was very natural for the average reader to infer that such an institution was, of course, a government service. Recently we have heard that the same organization has been exhibiting its county fairs in the state of New York. They have been securing space at these fairs in the exhibit buildings, still calling itself the “National Health Service,” and according to the New York State Board of Health has been disseminating information calculated to mislead the public about health matters. It seems that they were still cunningly using the name of the United States Public Health Service in the advertising matter about their exhibit, this particular act being done through the old method of an ingenious arrangement of large and small type. The most serious part of such an enterprise, however, is that the institution is proclaiming against the use of vaccination and toxin-antitoxin in the control of such diseases as smallpox and diphtheria. This is not only misleading information, but it is dangerous propaganda and sooner or later will inevitably result in disaster to the public health, especially in thickly populated centers. Its chief incentive for existence as an organization seems to be to fight the regularly
organized medical profession of the country, knowing that such organization alone stands between them and a complete financially successful exploitation of the American public. The worst feature of such organizations is that it upsets and misleads people who are ill or suffering from various chronic troubles, most of which could be satisfactorily treated if placed in the hands of a competent physician without delay.

The people of North Carolina some months ago were treated to a somewhat similar exhibition of another bogus health organization. In that instance the individuals exploiting the people in this State were parading under the auspices of the "National Health League." The variation this time was that the home office and headquarters was said to be in Newark, New Jersey, thus being a variation of a little greater distance from Broadway than is usual in the case of such fakers. Among people generally there is always a large proportion of simp's who will accept anything in the way of an organization so it announces itself from New York or thereabouts. The particular game worked by the exploiters who took in a large number of North Carolina towns, was to announce themselves as "laymen dieticians" sent out by the "National Health League." This outfit had some two or three especially glib talkers. One man and his alleged wife, working in a kind of double harness, the one following the other, managed to put on a fairly thorough piece of exploitation, capitalized, of course, and possibly only on account of the ignorance of the average person on the subject of dietetics. These people worked the civic clubs, were after big business, and in the case of this State got it until the outfit was shown up for what it is. No such thing as the "National Health League" has so far been discovered with a microscope, but it served very well the purpose of the traveling outfit. The information spread before these clubs in North Carolina, and which was accepted by many others, was that "experts" sent North Carolina out North Carolina butter beans and apples pie at the same meal. His clincher seemed to be a lot of wise cracks, criticizing certain food combinations that have stood the test of time and will continue to do so.

We cannot close this article without referring to the fact that the business of proclaiming fad food enterprises never seemed to flourish as at present. We find a self-constituted "expert layman dietitian" on every block and in every school district in the State. It is a rare thing to pick up a daily, weekly, or monthly newspaper or magazine without finding about one-half the contents devoted to "expert" food advice, and so on. It is safe to say that about 90 per cent of this stuff ranges from semi-accurate scientific material down to absolutely rotten misinformation. There is a pronounced necessity existing throughout North Carolina at least for scientific teaching on dietetics, and other questions of personal hygiene, as well as public health; but this teaching must be founded on sound scientific fact and must be done by people who are masters of their subjects. We shudder to think of the efforts that are going to be necessary in the near future to unlearn and eradicate from the public mind the floods of misinformation which they are now engaged in laboriously trying to learn. The State University and the different colleges in North Carolina, both for men and for women, for white and for colored, have a grave responsibility in these matters. Unless chairs are provided at all our institutions and filled by competent teachers, the exploiters and fake "laymen dietitians" will go on reaping their harvest in our section.

MOPPING THE TONSILS

Sometime ago a correspondent wrote to the State Board of Health, making inquiry about a so-called doctor holding forth in some sections of the State and advertising to the world that he is treating "successfully" enlarged and diseased tonsils by the process of "mopping" them. Our correspondent wrote that "this man simply
mops the tonsils and claims that they disappear or shrink up so that they do not bother again."

It is well known by competent physicians and surgeons that the only successful method of dealing with the diseased tonsil is through the ordinary surgical procedure of removing the tonsil. It should not be necessary to state that this operation should always be done by a competent throat specialist and no one else.

The promise of relieving a patient suffering from an enlarged and diseased tonsil by simply brushing a cotton rag saturated with some mysterious medicine over it is so patently a fraud well known to doctors that this information should be disseminated to their patients and to the people generally. In the case of people who suffer from periodic attacks of enlarged tonsils it is known that after a few days suffering such tonsils generally subside and the acute attack passes off. Sometimes where an abscess forms and pus collects, complicating such an enlargement, the abscess ruptures and relief naturally follows. In other cases the abscess has to be opened by a doctor before relief comes. In any event, a mopping and local treatment frequently employed by reputable physicians in such cases is only for symptomatic purposes and is in no way directed toward a permanent cure of the condition. In such cases doctors always advise the patient to have the tonsils removed before they can expect permanent relief. Naturally most of us dread the idea of a surgical operation of any character. This is perfectly understandable, but it is necessary for us to know that frequently our only hope of relief in certain conditions lies through the employment of surgery.

It might be well to add for the benefit of the public generally that when any so-called doctor offering treatment in any kind of human ailment promises a cure that particular so-called doctor may then and there be written down as a fake and a fraud. It does not matter if he has a diploma from Harvard and occupies the finest office in the biggest town in the State, no reputable doctor ever promises a cure for anything. The reason for that is that the competent physician knows that even in very minor ailments affecting human beings there is no method of predicting what kind of complication may arise or what may ensue which might result in the upsetting of all calculations or promises that he might make. When the owner of an automobile buys a new tire and starts off on a trip, he does not expect the man who sold him the tire to tell him that it is puncture proof. Neither does he expect his mechanic to tell him that if he runs into a tree or crashes into another automobile or is guilty of any other accident or indiscretion that his car will come through undamaged. Why expect a doctor to promise something that he knows cannot be definitely predicted?

If a physician who has a license to practice medicine following his successful completion of the course now-a-days from any medical school and following his license by the State Board of Medical Examiners cannot settle down in a location and eventually make a living with ordinary legitimate practice of his profession but has to resort to advertising in some easy way, people may rest assured that such a man is not dependable. A good physician must first of all be a reliable citizen, and morally speaking a good man before he can be a good practitioner of medicine, and no good citizen will take money from an unsuspecting patron by advertising false promises.

THE HEREDITY ALIBI

Dr. Frank Crane, we believe, was the author who sometime ago called attention to the greatly overworked heredity alibi. It is well that somebody with a national audience has seen fit to call attention to this particular item. The writer mentioned observed that he had never yet made the acquaintance of a man or a woman who was successful from a worldly standpoint; in short, "Somebody" who had ever given credit to heredity for the traits which were responsible for their success. But the same author went on to point out that it is common custom for every down-and-out and every failure to blame it on his forebears.

All of us know how true these observations are. We do not inherit an appetite for apple pie or for buttermilk. We know well enough at this time that we do not inherit a considerable number of diseases which used to be laid at our ancestors' doors. We cannot inherit an education but we have to dig it out for ourselves.
March, 1928

Each generation has to begin the work of civilization all over again. It would be very nice to think that we could begin where the previous generation had stopped off and that we could profit by their experience, their mistakes, and their successes; but, as individuals, we seldom do it. The fact that our fathers got their fingers burned means nothing to us in the way of warning until we burn our own fingers. In the old days of the saloon and the town drunkard it was often pointed out by that individual in his half rational moments that he had heard his great grandfather liked his toady, and therefore all his own shortcomings were to be blamed on that ancient ancestor.

It took a long time for people to see by a little plain looking that it was one of the rarest things in the world for an ordinary everyday drunkard to have children who followed in his footsteps. Back there in those same old days about the soberest individuals in any community were the sons and daughters of the community drunkard. In the biography of Woodrow Wilson written by Mr. Baker, President Wilson was quoted as saying that he had never smoked or used tobacco in his life because he felt that his father had used enough to last them both.

This is more frequently the situation than otherwise. There can be no doubt that talent is inherited; and there seems to be considerable doubt whether anything else is inherited or not, except our prejudices. Let us hope that the day will sometime come when the heredity alibi can be buried in the same cemetery along side of maternal impressions and such other fantastic notions of bygone days.

"EDISON’S FOOL"

On the occasion of Thomas A. Edison’s birthday in February of this year a newspaper feature writer sent out from his birthplace at Milan, Ohio, an interesting sketch concerning the early years of the great inventor. One old-timer, a little older than Mr. Edison recalled that the community used to call this now famous man when a little boy “Edison’s fool.” This was because the teachers of the little school in the village used to bring him home to his parents, telling them it was no use, that he was such a big fool they could not teach him anything. One winter the bright and smart teacher of the school dramatically led young Edison from the foot to the head of the class, declaring “he would never get there any other way.”

The trouble was then the same that it is now in probably an unlimited number of instances throughout the country, trying to fit a square pressed brick into a previously prepared hole so that it will look like all the other brick in the schoolroom. It would pay every Parent-Teacher Association to set apart at least one program during the school year for a local application, with parent and teacher joining in a survey and study, to find out how many efforts are being carried on in like manner in the schools today. It would pay us all to indulge in a little intensive study of such instances. This could be done by assigning only one program for the year, and in that way would detract but little from the professional efforts of professional uplifters in the professional institute fields in which learned bachelors and maiden ladies specialize in telling parents how to raise children and teachers how to teach them.

Think of it, a succession of teachers in the village school from one winter to another accepting the village dictum that Thomas A. Edison as a boy was a fool, today probably the most famous man in the world, and his fame resting absolutely on his own ability, called a fool when a boy! All the world knows now that Mr. Edison is intensely deaf. It is very probable that when a boy his hearing was subnormal. Such being the case, he probably heard very little of the routine instruction carried out by the average teacher in the village school. What little he did hear probably did not interest him. He was probably busy with his own thoughts and his own ideas as to what it was all about. Therefore in school and in the neighborhood he was a misfit.

There are probably children in every school in the State of North Carolina today whose hearing is subnormal and who, when placed at random about in the schoolroom, especially on the back seats, hear little or nothing about what goes on up front. They are catalogued as fools or as ordinary lazy, indolent, good-for-nothing, worthless little individuals. It may be a fortunate occurrence, and yet again it may
be unfortunate, that most of these children who develop intense deafness later in life hear sufficiently well to get by with most of the school work, although it is harder for them. It is uninteresting, and not many of them make unusual progress in school. A little care and persistent investigation on the part of the individual teacher in the beginning of school would enable each teacher to soon locate such children, and then with very little especial attention in placing their seats in favorable positions and otherwise giving them a little more care the handicap could be properly balanced.

Not every boy who wears the pseudonym of the school fool achieves fame, but often later in life a sufficient number of such boys and girls frequently do, to demand careful attention on the part of the school authorities. In the case of Mr. Edison the descendants of these boy and girl associates of his who had so many laughs when the teachers called him “Edison’s fool” are planning today a ten million-dollar tribute to their most famous native, the tribute to be in the shape of a ten million-dollar technological school. They plan that half of the students in this school are to have all their expenses paid, students who otherwise could not afford to attend school.

We never know when the school fool may turn out to be community’s most distinguished citizen later on.

**DOCTOR SMITH’S REPORT**

We are publishing elsewhere in this issue a very interesting report by Doctor Smith of Wilson. The report is in the form of a narrative citation covering the ten-year period since the organization of the health department. The title is “Ten Years of Public Health Work in Wilson County.” Some of Doctor Smith’s notations assume interesting historical comparisons. The work in Wilson county under the leadership of Doctor Smith has been of the quiet, conservative, effective character. There has been no big drum beating and no spasmodic efforts at display. They have known all the time where they had started and why. They realized in the beginning that Wilson County could not be made over in a day or a week, even were such a procedure desirable. Doctor Smith is essentially an educator, as all successful public health officials have to be to get anywhere. With that fact in view it is easy to understand him when he says in his report that his main efforts have been concentrated in the schools. Health education must be the talisman that unlocks the doors of success for any responsible official engaged in any way in public health work. There are many quacks and charlatans and faddists riding that tide now, masquerading under that all embracing phrase. Many of these self-constituted “authorities” have little definite idea what it is all about. But they are all a unit on the desirability of riding on the band-wagon, doing the driving and most important of all, drawing the salary. Being in a position for many years to see so much of the latter kind of activities, it is all the more encouraging to us to note the fine progress made in a county like Wilson.

Doctor Smith has demonstrated his wisdom in concentrating on a few definite undertakings and then giving the people time to absorb the teachings.

Please note the things the department majored in during these last ten years. School health supervision, safe milk, sewage disposal and general sanitation, prevention of diphtheria, typhoid and smallpox: a genuine scientific program utterly devoid of controversial or theoretical fads.

“*The old rail fence with aimless angles runs round my heart today.*”
By request of the county commissioners I am making a report of the progress of public health work in Wilson county, covering the ten years period of my administration.

To make a tabulated report of all the work done by the health department would be easier than writing a narrative report, but would not be read with the same interest, hence I have decided to write a narrative report, the purpose of which will be to show the change of attitude of the public generally toward health work. However, it might be of some benefit to give you a few figures covering some phases of our work in order that you might get some idea of the volume of work done by your health department. For instance, our records show that we have vaccinated against smallpox twenty-two thousand three hundred and forty-three (22,343) persons; the number of persons taking typhoid fever inoculation is twenty-seven thousand three hundred forty-seven (27,347), three doses for each person would be eighty-two thousand no hundred and forty-one (82,041) doses; three thousand six hundred forty-three (3,643) children have taken toxinantitoxin for the prevention of diphtheria (some took three and some took four doses); we have made thirteen thousand four hundred ninety-eight (13,498) physical examinations of school children.

These figures, of course, represent only a part of the activities of your health department. If space permitted we would be glad to give full tabulated report on all activities. The above figures, however, will serve to show you something of the volume of work along those and other activities of this department.

In order to give this narrative report the proper setting it will be necessary to go back to those cold days in January, 1918, when many water pipes froze and burst. When we had no hard surface roads except a few miles leading from Wilson, and to get off these rock roads with an automobile meant that you were almost certain to get stuck. If your destination happened to be a school house, as was usually mine, you would find a small, one or two-teacher school, poorly heated, lighted and ventilated. Then we had fifty-one such institutions of learning in the county.

Now we have only twenty-one white schools, all of which are modern structures, with adequate heat, light, water and toilet facilities. Starting from Wilson any one of these twenty-one schools may be reached in ten to thirty minutes by automobile. The roads leading to these schools are nearly all paved. The foresight and leadership of our late lamented Charles L. Coon made these modern schools possible. An awakened civic pride on the part of our people made the roads possible. These two physical improvements have had and are having to do with our progress in all lines more than anything that has happened in the past ten years. Modern school houses have attracted the best principals and teachers to be had, making these schools the centers of activities, elevating the moral, mental and physical standards of living in the communities in which they are located. Good roads have made social intercourse easier and broader in scope. We know more people and know them better by reason of more frequent contact. To know each other better is to love and understand each other more.

I well remember the tremendous difficulties met with in the schools in regard to vaccination for smallpox. On one occasion my visit was the signal for school to "turn out." And they turned out through the doors, windows and any other places where exit was possible, leaving the frightened little teacher to hold the fort as best she could. This, of course, was ten years ago.

What is the story now? This year we have visited every white school and the thirty-four colored schools. I can count the number of children on the fingers of my two hands who showed any objection to vaccination. All of them eventually took it without resort to law. Then again
please note this change of attitude. Practically every school in the county, through its teachers, parents and children, have, at different times during the past few years, especially invited me to hold vaccination clinics in the schools for diphtheria and typhoid fever. Seventy-five per cent to ninety-five per cent (75 per cent to 95 per cent) of the children and many of the parents and other members of the family have taken advantage of protection against these two diseases. Now they welcome service from the health department, whereas before they feared and shunned it.

The possibilities of a well equipped school house and a corps of good energetic teachers are unlimited in building a community morally, mentally and physically. Through this channel your health department renders its largest service to the people of Wilson county. Let me go on record as saying that we have had the co-operation and helpful assistance of practically one hundred per cent (100 per cent) of the teachers in Wilson county during these ten years. We covet their continued friendship and co-operation as the most valued asset in the promotion of better health for our people. The process of building better health is truly educational, and of necessity is a slow process. No definite statement can be made as to assets and liabilities as in a bank statement. There are certain tangible results, however. Typhoid fever has shown consistent reduction every year. Smallpox has shown a like reduction, but with more fluctuation. At present we are having more than our usual number of smallpox cases. The law requires the vaccination of school children. It is very noticeable that practically none of the cases exist among children of school age. Diphtheria likewise is decreasing both in number of cases and deaths. Malaria is not nearly so prevalent as it was ten years ago.

These reductions have not been due altogether to vaccinations. A better knowledge has been gained through the process of education concerning the causes of diseases and how they spread from person to person. To know your enemy, where he is located and how he will attack you, is to be prepared for easy victory. The information given out by our State and local health departments, the family doctors, daily newspapers and magazines on the subject of diseases, its cause and prevention, has been the means of educating people along these lines.

Not many years ago it was a rare thing to see a country home well screened against flies and mosquitoes. Now a home is not considered complete without screens. Many landlords are now equipping their tenant homes with screens, realizing that it is a good investment to protect their labor against typhoid fever, carried by flies; and malaria, carried by mosquitoes. Some landlords so recognize the economic value of protecting their labor against disease that they require their tenants to be vaccinated.

I sincerely believe that the majority of our people have reached the point in the process of health education where they know the value of a well organized health department, and approve every dollar appropriated by the officials of our city and county.

The citizens of a certain part of a certain county (not calling names) who come here to trade with our good merchants and sell their tobacco on our good markets, also come to our health department for services—such as marriage certificates, vaccinations for smallpox, typhoid fever and diphtheria. Many of them have expressed the wish that they might in reality be made a part of Wilson county and pay their taxes where they can get these services. I gladly render this service because these good people spend their money (except taxes) in our county and are without such health service in their own county. Then again diseases do not recognize county lines. If these outsiders appreciate and realize the value of health service, then I am quite sure my statement above with regard to the appreciation of our own people is true and correct.

As further evidence of the change of attitude and the consequent change and improvement in better health conditions I would ask you to compare the dairies of today with those of ten years ago; the restaurants of today with those of ten years ago; the open back privies of ten years ago with none in the city limits today; the city pig pens of ten years ago with no city pig pens today.

Compare the attitude of our civic organizations of ten years ago with that of today. Every one of these organizations are today intensely interested in all matters pertaining to the health and betterment of our people.
Our own medical society, in co-operation with our health department, have organized and conducted a clinic for the treatment of venereal diseases, giving relief and cure to hundreds who would otherwise go untreated and infect others. In addition to this look at the hundreds these doctors have protected by vaccinations for smallpox, typhoid fever and diphtheria, and the thousands whom they directly influence to come to the Health Department for these vaccinations.

The spirit of co-operation on the part of physicians and the public in the matter of quarantine has greatly improved. We all more fully realize that quarantine is nothing more nor less than the practice of the "Golden Rule."

We would not have you believe by a recitation of the foregoing facts that we have reached perfection in the matter of health protection, though the results are gratifying to those of us who have been in close touch with the work. We are, as a matter of fact, a long way from perfection. But if another ten years brings the results that the past ten years have wrought, then we will most certainly be nearer the desired goal.

THE MALARIA TRADITION

How to Ascertain the Facts and What to Do About It

BY

MARK F. BOYD, M.D., Director

Station For Field Studies In Malaria

Edenton, N. C.

Many of the counties of the coastal plain area have been handicapped by a wide spread reputation for insalubrity largely ascribed to the various types of malarial fever. Regardless of what may have been the actual status of malaria in this region in times past, the reputation still lingers, and many health officers have been deterred from making a careful investigation of the actual situation of their local problem by the wide spread dissemination of the malaria tradition.

There is no reason to deny that malaria was once exceedingly prevalent along the coast, as witness the former prevalence of hemoglobinuric fever, yet without doubt many former ideas of its prevalence, entertained both within and without this area, were exaggerated by diagnosis of remittent fever, through which many cases of typhoid fever must have been erroneously credited to malaria. The uncertain position of malaria is also intensified by the fact that except for a brief period now terminated, malaria has not been a reportable disease. The collection, therefore, of any information on the present day incidence will depend on the initiative of the health department.

In approaching the malaria problem to find its actual status, the health officer should avoid two mental pitfalls, viz, (1). He should not permit himself to be biased by the malaria tradition of his county, and (2). He should bear in mind the fact that malaria incidence is not static, but dynamic, and that the situation may become profoundly changed in the course of a few years. Due to the operation of a variety of factors, it would appear that whatever may be the character of the annual fluctuations, the incidence of the disease actually has a strong downward trend. This encouraging circumstance should be utilized to hasten the day when malaria no longer constitutes a public health problem.

The health officer can readily form an accurate idea of the magnitude and course of his malaria problem, by the annual examination of school children to detect splenomegaly. These examinations can be quickly performed, while their rapid accomplishment is facilitated by the present day tendency to consolidate schools. Since a rapid review of the situation in a county is required, the examinations should not be done in connection with the routine physical examination of children, but as a special activity. They are best made in the fall or early winter, when the physical effect of malaria splenomegaly is most evident, and after field work is finished when
the school attendance is largest. A few working days will suffice to cover all or nearly all schools in the average county. The rapidity with which this can be done will prove surprising. Dr. M. C. Balfour of this station, limiting his examinations to school boys, covered three counties as follows:

<table>
<thead>
<tr>
<th>County</th>
<th>Total Pop.</th>
<th>Schools Visited:</th>
<th>Boys Examined:</th>
<th>Working Days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>White</td>
<td>White</td>
<td>Colored</td>
</tr>
<tr>
<td>Chowan</td>
<td>10,000</td>
<td>14</td>
<td>14</td>
<td>329</td>
</tr>
<tr>
<td>Bertie</td>
<td>24,700</td>
<td>13</td>
<td>27</td>
<td>751</td>
</tr>
<tr>
<td>Washington</td>
<td>11,688</td>
<td>18</td>
<td>11</td>
<td>460</td>
</tr>
</tbody>
</table>

Nearly all schools were visited except in Bertie County.

It may be advisable to limit the examinations to school boys under 15 years of age. The work is facilitated if an older pupil is appointed to serve as clerk, recording the name, age, place of residence and results of examination. It is best to assemble at once all the boys from any room. Examinations are best made with the subject recumbent, the legs flexed. Insert the hand beneath the clothing and lightly palpate the left upper abdominal quadrant near the costal margin during deep respiration to detect the margin of an enlarged spleen. It is probable that in white children spleens which are only palpable on deep inspiration are not significant of malaria infection, although significant in the case of negroes. Such may be found in as high as six per cent of some groups of white children. These very slightly enlarged spleens should be eliminated from the analysis of the records of the examination of the whites. It is advisable to defer the examinations if measles or whooping cough have been prevalent within three months. The percentage of enlarged spleens should be calculated for each school district, and the residence of these positive should be plotted upon a county map. It is also advisable to calculate the incidence by ages.

These rapid examinations should be repeated each year at the same season, to furnish a reliable indication of the trend of malaria incidence. If blood smears are taken from those having enlarged spleens, the examiner should not be surprised if the number of positives seems disappointingly small. Positive bloods are evidence of an acute attack or of recent activity in a chronic infection, while splenic enlargement is indicative of resistance. Resistance in malaria is dependent upon a continuation of the infection, which is only readily apparent in the blood when the disease has recently been clinically active.

It is hardly likely that a reconnaissance of this character will show malaria to be uniformly encountered over an entire county, unless there has been an epidemic increase in malaria within one or two years past. It will more likely reveal that the distribution of endemic malaria is focal, and that these foci are neither numerous or of large area. The probabilities are that the health officer will discover that his malaria problem does not possess the magnitude he anticipated.

The fact that malaria is not generally a reportable disease is to be deplored. Not much information is secured from reports based on clinical diagnoses, owing to the frequent errors which occur when this disease is diagnosed on these grounds alone. Much would be gained if physicians can be encouraged to take blood smears for diagnosis, and limit reporting to those cases which are parasitologically positive. The errors resulting from occasional negative reports on specimens taken from actual cases of malaria do not diminish the administrative value of the positive reports, consequently these have a security which the former reports do not possess.

Likewise the practice of annually distributing cards to school teachers for delivery to the parents of the school children, on which reports of malaria cases occurring during the year are requested to be made, has little to recommend it. So many errors occur which cannot be checked or their probable effect weighed that the results are not commensurate with the effort.

If the spleen examinations are made during the early winter as suggested, the health officer is in a position to plan and initiate control work before the following season.

If the reconnaissance shows that several endemic foci exist, it probably will not be practicable to undertake to deal with all the same season. In any event it is hardly likely that the usual budget of the health
department will provide sufficient funds for this special effort. The extra funds will have to be secured by special appropriation from the county or town in the case of urban problems, or raised by private contributions in the county.

In any event, the control program had best be deferred until a survey has been made of each focus that is to receive attention. The possibilities for the complete extinction of quadrimaculatus breeding places by drainage should first be considered. In all urban problems this should receive first attention. If this would appear possible, it would be well to request assistance from the State Board of Health to determine the feasibility of drainage and prepare an estimate of cost, as a necessary preliminary to an appearance before the appropriating body with a request for funds. If complete extinction of anopheline breeding is not practicable, the extent to which the supplementary use of larvicides will be required should be estimated.

In the strictly rural areas, where the possibility for securing special appropriations is small and the per capita costs of a general drainage or anti-anopheline program will be high, efforts must be directed to get the individual farmers to take the required steps. These must be prefaces, when needed, by intensive propaganda explaining how malaria infection is acquired and that it can be readily prevented. With the ground thus prepared, it will probably be best to concentrate efforts to secure an extension of effective screening to all houses in a focus, and persuade the malaria cases to take thorough treatment. The elimination of standing water close to dwellings should be stressed, pooled ditches in fields and road sides should be graded, and effort made to secure the gradual substitution of open ditches by sub-soil drains. There will probably be some rural situations where paris green may be cheaply and effectively distributed by the persons to be benefitted. In every focus, the general propaganda at schools or at called meetings, or through the newspaper columns must be supplemented by personal emphasis to the need of malaria protection, as well as an opportunity to point out to the householder the special measures which his particular situation requires.

The execution of a sustained program along these lines can only result in the gradual extinction of the endemic foci and prevent the recurrence of epidemics.

**THE HOUSE THAT HEALTH BUILT**

A Usable Pageant for Teaching Health in Elementary Grades

*(The Sixth of a Series)*

BY ELIZABETH KELLY

The five short health plays which have been published in preceding numbers of the *Health Bulletin* had for their purpose the teaching of health facts in such simple ways as to help children acquire proper health habits. This pageant has for its purpose the review and correlation of these fundamental factors of healthy body building.

This pageant may be made as simple or as elaborate as its promoter may choose to make it. The various characters may be dressed to represent their parts. For instance: Miss Milk Maid might be dressed in traditional "I'm going milking, sir," style, or she might be dressed to represent a milk bottle. And so with Mr. Play Ball, and all the others. Boys and girls will take great interest in planning and devising the various costumes suggested by the names of the characters.

The teacher should keep in mind the fact that this pageant and the plays and other devices are only means to the end that children may be taught to acquire and maintain proper health habits. This comes only through daily practice of eating properly, exercising properly, sleeping properly, and observing proper habits of body cleanliness. And so by means of this pageant
may be taught again the importance of these four big factors in healthy body building.

THE HOUSE THAT HEALTH BUILT

A PAGEANT

CAST

The House—Girl healthy and well groomed wearing plain, neat costume with sensible shoes.

Mr. Nourishing Food—Boy healthy and well groomed wearing regalia with “Nourishing Food” in large letters on it.


Miss Bodie Cleanliness—A clean neat girl.

Helpers for B. C.—(1) Mr. Gate Keeper—Active, bright boy. (2) Miss Outer Guard—Strong, bright girl. (3) Mr. Inner Guard—Strong, bright boy. (4) Miss Neat Appearance—Neat well-groomed girl.

Mr. Healthful Exercise—Strong, alert, active boy.

Helpers for H. E.—(1) Mr. Hike Jumper—Erect, sturdy boy. (2) Miss Dance Skater—Graceful, strong girl. (3) Mr. Play Ball—Athletic, alert boy. (4) Miss Tennis-Swimmer—Athletic girl.

Miss Restful Sleep—A calm, dignified girl.

LEGEND

1. House.
2. Food.
3. Fruit Bearer.
5. Vegetable Bearer.
7. Miss Bodie Cleanliness.
8. Gate Keeper.
9. Gate Keeper.
10. Inner Guard.
12. Exercise.
13. Hike Jumper.
15. Play Ball.
16. Tennis-Swimmer.
17. Sleep.

FINAL POSITIONS OF CHARACTERS ON STAGE

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SCENE

School platform or stage arranged with three tiers. Chair in center of second tier.

House enters and stands in front of chair.

House: “I am the house that Health built.”

Enter Mr. Nourishing Food and helpers advancing toward House.

House: “This is the food that was used by Health in building the house that Health built.”

Mr. Vegetable Bearer: “Here are beets, spinach, green beans, asparagus, raw cabbage, cauliflower, peas, lettuce, tomatoes, carrots, onions, turnips and potatoes. Health used some of these daily in building the house that Health built.”

Miss Fruit Bearer: “I have apples, oranges, peaches, grape fruit, plums, figs and prunes and many other fruits and berries. These I showed you are the best and Health used some of them daily in building the house that Health built.”

Miss Cereal Bearer: “Here are oatmeal, whole cracked wheat, corn meal and other crushed grain preparations. My best breads are whole wheat, bran, graham and white rye. These are the main cereals and breads used by Health although some others were used in building the house that Health built.”

Miss Milk Maid: “The best comes last—Milk is the most perfect and cheapest food. Milk is necessary for children and valuable for grown-ups. Health used at least one quart of milk each day in building the house that Health built.”

House “Take your places in front and continue to guard and protect the House that Health built.”

Enter Miss Bodie Cleanliness and her helpers.

House: “This is the hygiene employed by Health to aid the food that was used by
Health in building the House that Health built.

Miss Body Cleanliness: "These are the helpers that will tell you how they aided the food that Health used in building the House that Health built."

Mr. Gate Keeper: "I kept the mouth clean and healthful and let nothing but clean, healthful food and drink enter the mouth."

Miss Outer Guard: "I kept the skin and clothes clean not only to make the House attractive, but to help Mr. Gate Keeper guard against disease germs."

Mr. Inner Guard: "I kept the digestive tract clear of waste in order that the body should be free from poisons."

Miss Neat Appearance: "I kept the body well groomed by giving regular attention to hair and nails and by selecting and keeping in order suitable clothes."

House: "Take your places at my right hand and continue to help Mr. Nourishing Food guard and protect the House you helped to build."

Enter Mr. Healthful Exercise with helpers.

House: "This is the exercise practiced by Health in helping the hygiene employed by Health to aid the food that was used by Health in building the House that Health built."

Mr. Healthful Exercise: "These are the exercises that helped Health be strong to build the house that Health built. Each of you show how you strengthened Health daily in building the House that Health built."

Mr. Hike Jumper: "I hike for exercise and pleasure and I jump in games of contest. I am the best daily exercise that Health used in building the House that Health built."

Miss Dance Skater: "I am the best indoor exercise that Health could find in building the House that Health built. I am well poised and graceful because I learned how to dance and skate gracefully."

Mr. Play Ball: "I have a big part in healthful exercise but a bigger part in learning 'to play the game' in helping Health to build the House that Health built."

Miss Tennis-Swimmer: "I help to train almost all the muscles of the body to be strong and to obey—and so I helped Health much in being strong to build the House that Health built."

House: "Please take your places at my left. I know I shall be well guarded from that quarter while I depend upon you for help."

Enter Miss Restful Sleep.

House: "We all welcome rest and sleep which helps repair and build the House that Health built even when all others are idle. Miss Restful Sleep will you stand back of my chair and be for us all a re-inforcement and a reserve of strength when the day's work and pleasure is done?"

Miss Restful Sleep: "I am always ready to serve but can serve only if you have made ready for me. I am ready to guard and restore you all when you are weary from daily tasks."

House rises from her chair and recites the following, first indicating herself and then each group as named in the recitation:

This is the House that Health built.
This is the food that was used by Health in building the House that Health built.
This is the hygiene employed by Health to aid the food that was used by Health in building the House that Health built.
This is the exercise practiced by Health in helping the hygiene employed by Health to aid the food that was used by Health in building the House that Health built.
This is the sleep that restored Health Wearied by the exercise practiced by Health in helping the hygiene employed by Health to aid the food that was used by Health in building the House that Health built.

(Curtain or House marches out followed by the others in groups.)

SCIENCE NOT A CLOSED BOOK

"Science can never be a closed book. We should not be ashamed to change our methods, rather we should be ashamed never to do so. We should try new things, but should show common sense about it. The science which can point to its achievements against smallpox, malaria, yellow fever, diphtheria, typhoid and typhus fevers, tuberculosis and a score of other diseases, as well as to a rapid lengthening of human life, and especially to the saving of vast numbers of infants from early death, need not be ashamed to acknowledge that some experiments have failed."

CHARLES V. CHAPIN, M.D.
AN EXAMINING BOARD TO LICENSE COOKS

The New York Times recently published an anonymous letter from one of its correspondents in which the writer advocated the training of cooks on exactly the same basis as lawyers and doctors take training, and, of course, an examination and license would be required before the cooks could practice their profession or occupation or avocation or calling or whatever such a requirement would call for.

We are publishing below this letter in full. As will be noted the writer goes on to describe the making of certain dishes, particularly hash that would bring water to the mouth of any old-timer. One significant item occurred to us on first reading this communication and that is that in the days when cooking and eating in the South was carried on according to this writer's description pellagra had never been heard of in this country.

Although most of the efficient colored cooks described in the letter have gone the way of their glorious dishes, in these days of quick lunches, delicatessen shops, and bathroom-size kitchens, and schools full of mal-nourished children it would pay everybody to take time to study and practice some of the old time methods of cooking and eating. The Times letter follows:

"DECADENCE OF A ONCE GREAT AMERICAN DISH RECALLS DAYS WHEN HASH-MAKING WAS ART"

"I know not where the name originated, but I do know that before the oldest living person was born we Americans were familiar with that celebrated and appetizing dish—hash. That it is distinctly American, there can be no doubt, as the potato is an American product and without the potato there can be no hash.

"Those who lived in the days when the palatial steamboat floated up and down the Mississippi River well remember that hash was a permanent dish on the menu, placed before the passengers for breakfast, accompanied by the well-known and never-to-be-forgotten Mississippi biscuits, large, light and fit for a king's table, made by a colored cook whose apprenticeship never ended until he was a master hashmaker.

"But hash was not the only dish those colored cooks could make. Their gumbo soup, the fried yams with strips of bacon, their pies, thick, fluffy and juicy, their roasts cooked to a nicety, brown on all sides and carved in front of you, vegetables that melted in your mouth and with a flavor that would bring an appetite to a stone god—a flavor distinctly American, without the use of garlic or any of the modern imported tastes. The tomato was unknown, save as a 'love apple' and used as an ornament on the mantel-piece. The chowder those days was therefore tomatoless and was made systematically, with a layer of bacon, a layer of onions, a layer of potatoes and one of clams, alternating, all of which was topped off with a chunk of butter and nice rich cream.

"But, alas! what a change has come upon us, my countrymen! The once delicious hash has become a sort of American 'olla podrida,' into which everything belonging to the garbage can is dumped.

"It is claimed that a monkey was responsible for the mince pie in the kitchen of a king's palace by mixing the ingredients intended for other dishes while the cook's back was turned, but we know not where to place the responsibility for disrupting our American hash, unless it be the tendency of these days to jazz everything, whereby making us a nation of crawling, coughing, sour-faced dyspeptics, fit for a tasteless world and an early grave. It makes us feel that laws should be enacted compelling cooks to undergo training, such as physicians and lawyers are subjected to, before being permitted to follow their avocation of preparing edibles for an eating country."

RELATION OF CLIMATE TO STATURE

The tallest people are found in the temperate regions where active life is carried on and an abundant food supply prevails, according to an address given by Professor Bennett of the University of Virginia at a meeting of the American Association for the Advancement of Science. The shortest people in the world are the inhabitants of very cold or very hot climates. The Negroes of Central Africa average four feet, four inches, and Ayamas of Central South America are a close second. Next come the Lapps, Eskimos and Siberians, whose short stature is probably due to a faulty and difficult food supply. The tallest races are found on the shores of the Baltic, Eastern Africa and the pampas of the Americas.

Good Health.
THE DANGERS OF ULTRAVIOLET RAYS

The tendency of therapeutic methods to be adopted and discarded in great waves of popularity and forgetfulness has never been so completely manifested as in the current attention given to the use of physical therapeutic methods, particularly the ultraviolet ray. Not only do barber shops swindle prospective victims of baldness with incandescent lamps colored purple, not only do electrical corporations sell, as ultraviolet ray devices, contraptions delivering hardly any ultraviolet radiation at all, but some manufacturers of apparatus actually delivering ultraviolet rays of potency endeavor to place these devices wherever a sale can possibly be made. Regardless of the fact that practically every method in medicine that may do good can also do harm, these machines are being sold to bath institutes, swimming pools, massage parlors, beauty parlors, clubs, barber shops and innumerable other businesses in which medical supervision is certainly not probable, indeed, hardly possible. The sales are made notwithstanding the fact that scientific literature has already revealed that the rays may in some instances depigmentize or bleach the skin, that they possess dangerous effects for the eyes, that some people who do not tan easily are exceedingly poor subjects, that persons with a tendency to pellagra develop serious skin symptoms, that persons with fever tend to do extremely poorly under the use of the rays, that persons with low blood pressure react sometimes with serious symptoms, that persons with early tuberculous conditions may be greatly harmed, that menstruation in women constitutes a contra-indication to the use of ultraviolet rays, and that there are innumerable records of severe dermatitis, multiple keratoses and fixed macular pigmentation following over-exposure to ultraviolet rays in persons who are unduly sensitive. Moreover, the rays are being advised as useful in a vast number of conditions for which the scientific evidence is extremely slim. Scientific medicine knows no panaceas, no terapia magna, no theraics. It recognizes in many physical energies, in drugs, and even in faith healing certain powers of definitely limited application as demonstrated by scientific evidence. It must continue to depreciate the uncontrolled use of such agencies in the hands of those without scientific knowledge and in such manner as may result in serious harm.—The Journal of the American Medical Association.

NO CONFLICT NECESSARY

Public health agencies are free to use methods "to excite the interest of the citizen" that for obvious reasons cannot be used by practitioners. Sometimes these methods are so out of harmony with the ideals of medical practice that they receive little co-operation or support from practitioners. Sometimes the methods are adopted without any consideration for the interests of the practitioner, and sometimes he resents what seems to him to be unnecessary interference with his private practice. Sometimes he is compelled to defend his diagnosis and opinion against a contradictory diagnosis and opinion advanced by a school nurse, public health nurse, or in a consultation clinic. It isn't just a question of who may be right. Few practitioners in these days are so firmly established with their clientele that they are immune to criticism, and the confidence of their patients is sometimes shaken by an opinion given by some one of these agencies after an inspection or a cursory examination. Certainly the medical profession is under obligation to co-operate with public health agencies in every reasonable manner in the efforts to control and prevent disease. Certainly the important service given by the medical profession in the administration of public health regulations justifies careful consideration of the rights and privileges of practitioners when any program is prepared by public health agencies. Organized medicine can restore and maintain harmony between these two great bodies of medical men, can safeguard the interests of practitioners and give to the public health service every co-operation required. The county societies are the local units of organized medicine and they should not only take an active interest in public health matters but they should sponsor every campaign for immunization.

Since the county society represents the best medical men in the county and usually includes the county health officer—if he is a live one—there is no reason for any conflict of interests.—The Journal of the Kansas Medical Society.
HEALTH EDUCATION IN THE NEUSE FOREST SUMMER SCHOOL

We are publishing below an outline of the course of instruction in health education to be given in the Neuse Forest Summer School in Craven County, beginning in June. This course is endorsed by the Atlantic Christian College under whose management the school operates.

The character of instruction for the course has been worked out and the lectures are to be given by Dr. D. E. Ford, Health Officer of Craven County. Doctor Ford is an A. B. graduate of Dartmouth, class of 1904, and an M. D. graduate of Michigan, class of 1908. He is one of the most competent and thorough health officers in eastern North Carolina and is thoroughly qualified to make this course interesting and instructive.

The teachers of the Neuse Forest Summer School are indeed fortunate to have such an interesting and important course provided for them.

OUTLINE OF A COURSE

in

HEALTH TRAINING AND PERSONAL HYGIENE

adapted to

SUMMER SCHOOL INSTRUCTION OF TEACHERS OF RURAL SCHOOLS

Time: One hour daily. Credit: 2;
Purpose: This course is to meet three needs.
1. To train teachers to handle the health problems that confront them in their routine work.
2. To train teachers to effectively teach the health courses as prescribed by their Superintendents.
3. To give teachers such knowledge of public health that, through them, cooperation of parents, school and the health department will be more effective.

Arrangement: There are three divisions; interlocked and mutually dependent.

1. For school principals special emphasis will be laid on sanitation, ventilation, heating, lighting, seating, physical education, contacts with homes and with the health department.
2. For elementary grade teachers special attention will be paid to the effective use of the health text prescribed by the State Board of Education.
3. For primary grade teachers the choice and use of a system of health-habit training will be given prominence.

Combined with and uniting these three divisions will be a study of the scope of public health; its International, Federal, State and County organizations and relations; its economic status in business, community and home; its relation to education, and to home and personal happiness. Lay knowledge will be given of the contagious and infectious diseases and their prevention, and of physical defects as influencing attendance, retardation and adult health of school children.

MATERIAL

Texts:
1. Health Education. A Program for Public Schools and Teachers Training Institutions. By the Joint Committee on Health Problems in Education.
2. Health Training in Schools, by Theresa Dansdill.
3. The health text selected by the North Carolina Board of Education. Boys and Girls of Wake Up Town, Malden Health Series, Book I and Book II, Building Strong Bodies.

LECTURES

Supplementary Reading:
This will be selected and assigned to fit the special needs of the individual teachers—whether principal, elementary or primary, or teaching several grades.
Requirements:
Recitations, reports and discussions, examination.

BARBER SHOP SANITATION

A new law in the state of Mississippi authorizing and requiring the state board of health of that state to prescribe rules and regulations governing the sanitation of barber shops has recently gone into effect. A bulletin of the Mississippi Board is authority for the information that two sanitary inspectors will be responsible for the inspections of barber shops and other public service places in that state this year.
In the State of North Carolina such institutions as barber shops and other places of like character about which complaint is often made concerning those places that
are careless in sanitation is a matter for local city, town, or county regulation.

Barber shops that are insanitary naturally should not be patronized by people who know the importance of cleanliness and disease prevention. One of the items in their rules in Mississippi is to require a freshly laundered towel for each patron. Any first class barber shop catering to the trade of the better class of patrons, of course, could not hold its patronage by doing otherwise. But there are many second or third class or worse barber shops which the Mississippi Board characterizes as "alley" shops which are not scrupulous in such matters.

One of the important regulations of the Mississippi Board concerns the sterilization of all materials used in shaving. For the information of any barbers who would like to improve the standard of their places we are herewith publishing in full a copy of the rules and regulations as issued recently by the Mississippi State Board of Health.

The word barber as used in these regulations, means any person who shaves or trims the beard, or cuts or dresses the hair of any other person for pay, and includes "barber's" apprentices' and shop boys. The word manager means any person having for the time being control of the premises and of persons working or employed therein.

"All places used as barber shops and all furnishings therein shall be kept clean and sanitary at all times. The floors shall be kept free from accumulation of hair and shall be mopped each day the shop is used.

Every barber, immediately after using a mug, shaving brush, razor, scissors, shears, clippers or tweezers for the service of any person, shall sterilize the same by immersing them in boiling water for not less than a minute, or in the case of razors, scissors, shears, and tweezers, by immersing them for not less than ten minutes in a five per cent aqueous solution of carbolic acid, or alcohol of a strength not less than sixty-five per cent.

"The owner or manager of any barber shop and each of them, shall equip and keep said shop equipped with hot and cold water and with all such appliances, furnishings and materials as may be necessary to enable persons employed in and about said shop to comply with the requirements of these regulations.

"In every city, town, or village, where a system of water works is available for public use, each barber shop shall have hot and cold running water.

"No barber shall use for the service of a customer any towel or wash cloth that has not been boiled and laundered since last used, except in case a sterilizer is maintained, then hot towels and hot wash cloths may be used on more than one customer provided each towel or wash cloth is sterilized after each use.

"No barber shall, to stop the flow of blood, use alum or other materials unless the same be used as a powder or liquid and applied on a clean towel.

"No barber shall use a powder puff, or a sponge, in the service of a customer.

"Every barber shall cleanse his hands thoroughly immediately before serving each customer.

"No barber shall permit any person to use head rest of any barber's chair, under his control, until the head rest has been covered with a towel that has been washed since having been used before, or by clean, new paper.

"No owner and no manager of a barber shop shall knowingly permit any person

On the way from bed-room to dining room.
EXPLOITING SICK PEOPLE

It is necessary to keep continually before the intelligent public the fact that one of the meanest and commonest practices coming down to us from the dim and distant past is still more or less prevalent everywhere. We refer to the practice common to all fakers, of imposing on sick people and their immediate family at a time when such people, owing to illness, do not possess their accustomed judgment and when their usual caution is warped by their anxiety. It is nothing uncommon even today to see advertised in some of the newspapers a testimonial declaring a cure from some disease brought about by taking some widely advertised nostrum; and in the obituary column appears the notice of the death of the identical individual signing the testimonial. The obituary occurs one time in a different part of the paper; the family buries their loved one and experiences their grief in silence; but such a so-called testimonial once signed lives on forever.

The public is better informed now in personal health matters than ever before. It is easier to invoke the restraining power of the law, and for various other reasons it is more difficult to exploit such things as so-called "Cancer Cures" through fraudulent advertising; but what has been lost in that direction has been more than made up for in the great field of nutritional diseases, such as pellagra, and in kidney diseases and so on. This State is fortunately blessed in not being cursed with such a large and militant aggregation of so-called religious fanatics as some other states seem to be, but we do have enough of such perhaps fortunately, to act as an illustration of the dangers of such aggregations.

These observations at this time are brought to mind on reading recently a letter in the Asheville Times and widely re-published and commented on editorially by numbers of newspapers in North Carolina. This letter is a pathetic but noble expression from a woman who was deluded and distracted just at a time when she was undergoing treatment by a reputable physician for a serious disease. While the letter does not state, it is assumed from a careful reading of the letter that had the treatment not been discontinued at the time the patient might have been cured. One definite thing the letter does bring out is that the writer states that she is now in a hopeless condition. Whatever chances of cure she had, when listening to the sirensong of a fanatic, evaporated into thin air and the opportunity for recovery was lost forever. Following is the letter as it appeared in the Asheville Times of Sunday, February 26, 1928:

"EDITOR OF THE TIMES:

"Last fall when Mr. Erickson was holding services in the Tabernacle I had a serious trouble for which I was treated by a reputable physician. I attended his services and as a result discontinued the advice of my physician and also allowed it to be stated in the newspaper that I was cured.

"I feel that possibly a great many persons seeing that, believed it, as I did then, much to my sorrow. I now find that I am in worse shape than I was, that the services at the Tabernacle not only did me no good but deprived me of the benefit I was getting from medical treatment so that several months of valuable time have been lost and I now realize that I am in a hopeless condition.

"Won't you kindly give publicity to this letter so that others may not be fooled as I was fooled and I can in that way at least
make amends for publishing a false statement to the effect that I had been cured?

"(Signed) Mrs. R. L. Scott.

"76 Starnes Avenue, Asheville."

The Greensboro Daily News heads its editorial comment, "A Letter and a Story."
The editor of that paper says:

"The Daily News does not know the author of the letter or the man referred to in it, and has never before heard of the circumstances here described. For that matter it does not recall seeing such a letter in print before.

"But we confess to a certain fascination. Behind this letter must be something of a story. That the author has not thought it necessary to recount. Rather she has preferred to state the outlines with admirable restraint, and then stop. But it is quite enough. Your imagination will furnish the rest."

On the same date that the Greensboro paper published its editorial comment the Raleigh Evening Times also comments editorially under the headline, "It's All a Notion That God Takes Care of Fools."
The Times goes on editorially as follows:

"From the Asheville Times we clip a human document in the shape of a communication to the editor that we pass on

NEW CURE FOR BAD HABITS

A new story of how habits are formed and how they may be cured was advanced before psychologists of the American Association for the Advancement of Science by Dr. Knight Dunlap, professor of psychology at Johns Hopkins University.

Bad habits, such as stammering, biting finger nails, or using a slang phrase can be overcome by voluntarily doing the undesirable thing, according to Doctor Dunlap's theory, and he described cases in which this method has been tried and found successful.

The psychologist's first subject to try the habit cure was himself. To break up the habit of writing "the" on the typewriter for "the," he set to work deliberately and wrote half a page, single spaced, of the "the" combination, with the thought in mind that this was a "word" that he would not write in the future, unless it was done deliberately. About a week later he put in a second practice period, writing about one-third of a page. Since then, in

in a more or less vain hope that it may somewhere create an irritation growing into a nubbin of common-sense. There have been thousands of people who have experienced the result this woman confesses. She is the one among thousands who has the nerve to try to palliate a mistake of hysteria over her own name.

"Newspapers have long since quit advertising cures for cancer and other incurable diseases. We have been cajoled by the evangelist complex into something like indifferent endorsement of the faith curers. When everybody is shouting a thing it is difficult for a paper, at least in its news columns, to deny it publicity.

"Here, at least, is one who had traveled the bitter route, denied her doctors, got a hysterical cocktail at a revival, and seemed to get a kick out of it, only to run on a morning after.

"Take this human experience all ye who are physically under par; go to a doctor. God may be on watch; but our experience is that He does not favor fools."

The summary of the whole matter may be found in the twentieth verse of the second chapter of James. Hear what that "Servant of God" had to say about it: "Wilt thou know, O vain man, that faith without works is dead."
habit, for one reason or another, and have been carefully instructed that the voluntary performance, under the experimenter's control, would assist in abolishing the undesirable behavior at other times.

Doctor Dunlap's theory is in opposition to the generally accepted theory that repeating an act tends to fix it as a habit.

Repetition in itself is important only because it brings into play other factors which establish the habit, he believes. In experiments so far conducted, it has been assumed that attention, expectation, and desire are among the important factors in making and breaking habits.—Science News-Letter.

THE NO MEAT FAD

BY M. E. JAFFA, M. S., Chief,
Bureau of Food and Drugs

There have appeared in the daily press statements, both in the form of communications and advertisements, indicating directly or indirectly that meat is not advisable as a food and, furthermore, is the cause of certain diseases or disorders of metabolism. In view of these utterances it would seem pertinent to present facts for the purpose of conclusively proving how absolutely incorrect they are.

Meat when taken into the body can either build tissue or yield energy, and therefore, is a food. But as with cloth so with food: there are different qualities, low, medium, and high. Similarly there are foods of low biological value, medium and high. The question is, to which class does meat belong? In order to answer this question we must have a yardstick or a means of measuring the biological value of a food or food product.

It is admitted by all that meat belongs to the class of nitrogenous or protein foods. It is, therefore, only necessary to deal with that class of foods. In other words, then, what is the measure of the biological value of a protein? It is its ability to

a. Build the muscles, brain, heart, liver and other deep-seated tissues of the body.

b. To repair the daily nitrogen wastes. Any protein which can fulfill these conditions is, biologically, eminently valuable, but those proteins with high digestion coefficients which can accomplish this purpose with the least outlay of internal energy on the part of the body are of the highest biological type. It must be remembered in this connection that every operation, every process of production on the part of the body, whether it be mastication, digestion, assimilation, respiration, etc., calls for an expenditure of internal energy usually expressed in calories. When any food is ingested a certain proportion of the total energy is lost in (a) the undigested material, (b) in the processes of production just referred to, sometimes called work of digestion. It is of great importance, therefore, to state that the protein and fat of meat possess very high digestion co-efficients. In other words, then, there is lost to the body but little of the protein or fat when meat is eaten. In fact, it has been stated by eminent authorities that were it not for the "metabolic products" found in the excreta, the respective digestion co-efficients for protein of meat, milk and eggs would be practically 100 per cent. This can not be stated of the protein of the cereals or that of any other food of vegetable origin.

Meat should be considered exceedingly important for the invalid and the convalescent, in that the system has been depleted of tissue and needs rebuilding and strengthening. Meat, milk and eggs stand out prominently as sources of good protein, and in this connection it may be stated that meat has been proved especially valuable for the regeneration of the blood supply in anemia caused by loss of blood. This fact has been most conclusively confirmed by the experiments of Dr. George H. Whipple and associates at the Hooper Foundation for Medical Research, University of California Medical School. The result of their experiments showed that blood regeneration may be completed in two to four weeks with cooked liver as the protein food. Anemia will also be completely repaired within three to four weeks if the dog is given a liberal diet of meat or beef.
heart. The superiority of meat in this respect is more fully appreciated when Doctor Whipple states that a diet of white bread and skimmed milk may cause a slow, steady gain in blood pigment volume from week to week, but the time required for complete blood regeneration is six weeks or longer.

Many other illustrations could be given indicating that meat is a most valuable food for the invalid and the convalescent in that it supplies good protein most easily digested, and also contains flavors and extracts which at times are necessary to stimulate the stomach to better action than otherwise would be possible.

One of the best answers to those who oppose a meat diet is to quote from the life history of Vilhjalmur Stefansson as given in the Journal of the American Medical Association, Vol. 7, No. 1, July 3, 1926. The following facts regarding S’s life in the far north are noteworthy:

1. He spent altogether eleven and one-half years within the Arctic circle.
2. He lived for a number of days, totaling nine years, on an exclusive meat diet.
3. He reached his maximum weight while subsisting on meat (fish).
4. His sense of physical and mental well being was at its best during that period of his life.
5. He found that the exclusive meat diet worked as well when he was active as inactive, and as well in hot weather as in cold.

It has been stated by opponents to the use of meat that the protein content of meat differs from that of milk and egg in that the latter two do not contain the nitrogenous extractives as does the former. These extractives are the nitrogen compounds found in soup, and particularly in meat extracts. It is these compounds which have given rise to the statements that meat is intrinsically poisonous, in that the nitrogenous extractives are conducive to the formation and retention of uric acid in the human system. Such theories are based primarily on the writings of Dr. Alexander Haig, an English physician, who published a book some years ago, indicating that many diseases were due to the eating of too much meat. Naturally in the commercial meat extracts these compounds predominate as far as protein is concerned, because such products are the result of the concentration of soups, and continued ingestion of them would be undesirable. The percentage, however, in ordinary meat as we find it is not sufficient to be in any way injurious or undesirable to the average healthy person, be it man, woman or child. And, furthermore, the uric acid theory of disease has been more or less exploded. It is true that no matter what the form of diet, there will be uric acid formed as one of the end products of digestion, but if a person’s system is in good order and the kidneys working in a normal
manner he need not be afraid in any way of an injurious effect from the uric acid produced. It will be eliminated. If, however, there is a pathological condition present, the case is different and a physician's advice is called for.

This important question might well be summarized as follows:

1. Meat is a food easily digestible and well assimilated.
2. Meat furnishes protein essential for:
   (a) Growth and optimum development in the young.
   (b) The maintenance of health and activity and the ability to work in the adult.
   (c) The invalid and convalescent.
   (d) Certain types of anemia.
3. The rational use of meat by the normal, healthy individual will not be productive of any pathological conditions; that is, will not bring about disease or disturbed metabolism.
4. The rational use of meat is one of the potent factors in preventing the so-called deficiency diseases.

MILK AS A BODY BUILDER
BY
DANIEL P. FOSTER, M.D.
Chief of the Metabolic Division of Medicine, Henry Ford Hospital

How many times we have heard the question, "do you live to eat, or eat to live." Happy is the person who answers both these questions in the affirmative. A person of course must eat to live, but enjoyment of one's meals also is necessary. The happy person has a good appetite, and sitting down to a good meal in a good frame of mind is very essential for the proper utilization of food.

Today we have not the same body we had yesterday. The food we ate yesterday is now incorporated in our system, and because of this constant new supply of materials, the body does not need to be "laid up" for repairs except in case of disease or accident. In order that this be the case, however, we must have the foods which are capable of doing three things.

First, building material must be supplied. All food does not furnish building material for brain, muscle, glands, blood, and bone. A special type of food is necessary called protein food. One of the most easily assimilated and beneficial proteins is found in milk. This protein was designed by nature for food, and it contains the elements or "building stones" which when taken into the body are suitable for the replacement of the worn out parts.

Milk protein is not incorporated in the body in the same form as it is taken in, but must be separated in the processes of digestion into its constituent parts. These parts are rearranged by the body, and become living tissue. The kind of tissue they are converted into, depends on the needs of the body. If the skin has been cut or damaged then they are used to construct new skin. If blood has been lost, then new blood is made. If no accident has occurred then the natural protein loss is replaced.

In the natural course of events the body will lose in a twenty-four hour period nitrogen, which requires for its replacement about two ounces of protein food. Protein food is the only food that contains nitrogen. For this reason sugars, starches, and fatty foods, which contain no nitrogen will not serve to compensate for this loss. Some protein food must be taken every day if the body is to remain healthy and strong. Milk, cheese, meat, fish, and eggs comprise the principal sources of nitrogen for the body. These foods are called protein foods.

Of this group milk is the most valuable because it contains no other materials which are found in the other food, which are considered by many to be harmful. Meat has been listed frequently as the cause of high blood pressure and Bright's disease, but no one has ever included milk as being an agent responsible for these illnesses. Yet milk will do everything in the way of producing strength, and rebuilding tissue that meat will do, and no dangers are faced. There are other reasons why milk is considered a superior food.

This brings us to the discussion of the second function of food, which is to regu-
late body processes. These regulators are the vitamins. A vitamin is a substance, which regulates the utilization of food, but does not enter into the construction of the tissue, which it has played an important part in building. Let us call a vitamin a carpenter who puts the materials for a house together, but could not be considered a part of the house.

Vitamins occur in most of our foods, and milk is no exception. There are three vitamins present in milk, and their presence insures the proper use of the valuable elements of food, which it contains so abundantly. Fresh fruits, vegetables, some oils, and cereals (non-milled) are richest in vitamins. The “oil” in milk (cream) contains an abundant amount of vitamin A. This vitamin protects children from rickets. Because infants’ food is diluted, this vitamin is frequently added by using cod liver oil. Sunshine also prevents the occurrence of this very common disease of children. Water soluble vitamin B, or the anti-neurotic vitamin is also present, but in smaller amounts than vitamin A. The cereals, which have not had the outer coat removed are added to children’s diets to supplement the diet. Vitamin C, which is anti-scorbutic is also present in milk.

Of all foods, which we regularly consume, milk is by far the richest in calcium. Calcium enters into the structure of bone as its most important element, and without milk it would be impossible to furnish the amount necessary for the building of bone. This fact has been recognized for a long time, and is another of the reasons why milk is so essential for the growing child, and expectant mother. If sufficient milk is not supplied to the mother, the infant receives calcium from her own bones and teeth. This is one explanation for the softness of teeth, and their tendency to decay during pregnancy.

The third function of food is to supply energy for the human machine. The carbohydrate (sugary and starchy) foods and fatty foods have for their function the production of energy. This energy is produced by their oxidation or burning in the body, the same way heat is produced in one’s home by burning coal. The fats are the hard coal of the foods, and by their oxidation over twice the amount of heat is produced as is obtained for an equal amount of carbohydrate or protein. One gram (1130 of an ounce) of fat liberates nine calories of heat, while one gram of protein or carbohydrate when oxidized, liberates only four calories of heat.

A calorie of heat is the heat necessary to cause the temperature of one quart of water to rise one degree. For example if we put a quart of water over a flame, and a thermometer in it reads 80 at the start, and rises to 81 one calorie of heat has been transmitted to the water. If the thermometer rises to 82, then two calories have been transmitted and so on. The important concept to keep in mind when speaking of calories, is that one is speaking of quantity not quality. Fuels and foods are tested in exactly the same manner to determine the amount of heat they liberate. Most foods have now been tested, and we know the amount of heat or energy they will liberate to the body when consumed. One very good proof that the foods taken into the body do produce heat is that one’s body is warmer than the air.

Milk contains protein, carbohydrate, and fat, in forms that are easily burned. The protein enters the body in liquid form, and is easily prepared for burning. The carbohydrate as milk-sugar in solution is rapidly absorbed by the blood stream, and is one of nature’s best foods. The fat of milk is finely divided or, as the chemist

Two of Chatham County’s Coming Citizens.
will have it, emulsified, and because it is in such small particles it can be attacked on its many surfaces by the digestive juices, and quickly prepared for absorption. Five ounces of milk will produce in the body 100 calories, and if added to a child’s diet that previously was not gaining or losing weight, should cause him to gain one ounce every three days.—Los Angeles Health Bulletin.

IMMUNITY IS NOT RESISTANCE

By William Brady, M.D.

The old folk, I find, will go a certain way with me, but not all the way. It seems impossible to cajole or drive them past a certain position where all the old doctors and all the old health officers stand. Here the old folks take their last refuge. “Yes, yes,” they say, “it may be that a strong, healthy person can stand it, as you claim, but for me, I am convinced that when I get my feet wet, if I am unable to change to dry things soon, my resistance is lowered and I am quite likely to catch cold. I grant you it is a germ, but the pesky ‘cold’ germ seems to pick on me when my resistance is lowered by wet feet.” And there I have to leave ‘em, for in order to make further progress it is necessary to show ‘em that this “resistance” they conjure up simply doesn’t exist, and that gets us off the main subject of debate.

Immunity against any given germ disease is a positive state. One may inherit immunity; one may borrow it from another person or from an animal that has had the disease; or one may build it up by synthesis, from the ultraviolet rays of sunlight or the vitamins of foods. Immunity against a germ disease is never absolute, but always relative or partial. But it is always positive, that is, once you’ve got it you can’t lose it in a hurry. In fact except in very unnatural or exceptional circumstances you can’t lose it at all. In other words, I venture to assert as a strictly scientific premise, if an individual has, let use say, two plus immunity against pneumonia or diphtheria, no amount of exposure to cold, chilling, wet feet or similar discomforts can diminish his degree of immunity. So, in all fairness, I ask, where are the old folks going to get off with their untenable notions about “resistance?” Are you going to get off where the old doctors and health officers get off? Well, that’s too bad—the doctors and health officers can’t get off now without a ridiculous tumble and the loss of their dignity, for we’re going too fast.

Dr John B. Morgan says that the most important thing to be taught a child is Love, because it involves all moral precepts. If he loves his playmates he will love fair play. If he loves his task he will be diligent; if he loves animals he will be kind to them; if he loves beauty he will devote himself to it. This is not like the old method of teaching him to hate everything not good, is it? —Child Welfare Magazine.
DO YOU KNOW THIS WOMAN?
BY
EMLYN JONES, M.D.

She goes by many names—or used to. Her number has decreased these last few years. She is not extinct, however. We'll know when she is, for then all of us will be men without a country. But time and change, particularly the latter, are radially extinguishing her. She has—or had—an enviable domain called “Home.” Through hundreds of centuries she developed it—from cave to tent; from tent to hut of twigs or mud; from hut to walled house. Anyone can live in any sort of shelter. But this woman took unto herself the task of making even the humblest shelter a place where one wanted to live—where one longed to live. From the way she went at this task, one might have thought she was made for the purpose.

She had no easy time making the home. This was the most valuable piece of constructive work ever undertaken—it served to develop the finest type of human being, the home-keeping wife and mother. From the first, her daily round of duties has been more or less monotonous—usually more. Hers was not the showy part in the doing, but it outshone all other parts in what has been done. While men fought in wars and furthered destruction, for gain or glory, she*kept her quite path, and made it the highway to the soul and the strength of civilization—the home. Domesticity was a virtue by none despised. Out went the man to work for a living and in stepped the woman, with or without help, to transform his earnings into the comforts of home. That was her province—the well-being of the home, its comfort, fitness and adornment which, with the bringing up of the children, made life for her sufficiently busy. Man, the provider; woman, the preserver; sweet and sensible division of responsibility.

The home is the heart of the nation, the actual sustainer of its power and worth. The woman who tends it faithfully is serving her kind in the highest possible way. It is the one institution, above all others, on which rests the character of the nation. Economically viewed, it is the hub of the whole structure. The woman who has made it should be proud of her heritage and of the chance to extend it. There may be a better work, but time has yet to reveal it.—Pennsylvania Vital Statistics Bulletin.

SOME ASPECTS OF MATERNAL ACCIDENTS

At the meeting of the Tri-State Medical Society of Virginia and the Carolinas at Virginia Beach, held during February, a great deal of attention was paid to the discussion of all phases concerning the mortality of women incident to maternity. Most of the discussion, according to those fortunate enough to be present, was said to be highly interesting and important.

One of the high lights of that particular session was the remarks made by Dr. Cyrus Thompson of Jacksonville, North Carolina. Doctor Thompson was not on the formal program for the symposium; therefore was at his best as an impromptu speaker. We are privileged to publish below the stenographic copy of the speech made by Doctor Thompson on that occasion. As usual, his language is clear-cut and straight, and is of general interest and importance to layman and physician alike.

When we consider that there are more than eighty thousand babies born in North Carolina annually, we know that many infants together with an equal number of mothers and incidentally their families, friends, and relatives who are vitally concerned in these questions, constitute a fairly large army of citizens in this State.

Doctor Thompson was called on by Doctor Crowell and requested to present his views in the discussion. Following is the verbatim report of his speech:

“Mr. President, when Doctor Crowell introduces me as an obstetrician I feel like exclaiming, ‘Lord, Lord, how this world is given to lying.’ I am only a general practitioner. When April comes I have been delivering babies for forty-nine years.
I am not going to discuss these several papers which have been read, and I don't want you to cut me off in the bloom of my youth by calling time on me in what I shall say, because this society, you will understand, will give me all the time that I care to make use of. (Laughter.) (President Wilson: Well, sir, I shall endeavor to do my duty.) I recognize that you do, sir, but both of us will follow the pleasure of the society.

"I was very glad to hear Doctor Willis say what he did about cesarean section. I have lived long enough to know that there are fads in medicine just as there are fads in politics, religion and every sort of social convention. I know a time when it was the fashion to do cesarean section on comparatively small provocation. I have practiced medicine and delivered babies, as I said, for well over fifty years, but I have never yet come across a case in which I thought a cesarean section was necessary. I have always been able to get through some two thousand deliveries by patience, version or a forceps. The gods may have been abnormally kind to me.

"One thing I want to say about the delivery of babies is this: it requires a vast deal of patience and kindness of heart, and not infrequently much time; and the man who goes to a woman in labor and knows that she is the wife of some man with all that term means, if he pulls the Golden Rule before his eyes and treats that woman as if she were his wife or his daughter and does not attempt to save time for himself for the sake of a few dollars at the expense of this woman, this man will in most of his cases, by patience and perseverance and, as the old saying is, a little oil, come through finely without cesarean section or other operations. If there is one evil in the practice of obstetrics today it is this, that the practitioner wants to hurry up, wants to get through, and the woman being impatient to get through, he sticks pituitrin in her arm and rushes things on and gets through quickly, to the immense damage of the woman. Now, our friend Doctor Brydon says that she wants to come to a time when all the midwives will be done away with, and every woman in confinement shall have the service of a physician. That is a consummation devoutly to be wished, if we had practitioners enough to take care of all the cases in the country. But we have not enough and we shall never have enough physicians for this service until the trend in society changes. Everybody knows that the drift of doctors is away from the country to the cities and towns.

"I made a statement before the Seaboard Society in Norfolk the first week in December, which I shall repeat on this floor: I do not know whether it is a good thing, under present conditions, to get rid of all the midwives and have all babies delivered by doctors.' Our friend, Doctor Taliaferro, comes up and speaks of cervical conditions. We know that most cancers of the uterus begin in the cervix, and men like Doctor Taliaferro tell us that with the general increase of cancer there is also a remarkable increase of cancer of the cervix. We know that cancer is prone to originate in injured tissue. I made this statement in the city of Norfolk in December—that the average woman is better off under the care of the average midwife, who knows nothing and does nothing, but sits down and lets the baby come naturally and then ties the cord in two places and takes it away, than the care of the average physician who gives pituitrin and rushes things and has lacerations, a fertile field for cancer to follow after. Do you agree with me? Well, I am older than most of you. Under these circumstances give time, give time. It is a great thing to stand still and see the salvation of the Lord. Of course you can relieve discomfort while you are patient. If the baby does not come do a version. If it still does not come, put on your forceps. You can take time off whenever you want to.

"I wish indeed myself that the midwife could be done away with and wish that inconsiderate practitioners could be done away with, and that all women in the time of their trial could be put in the hands of intelligent physicians, but all physicians are not intelligent, all physicians are not thoughtful and considerate. Too many of them are as big fools with their pituitrin as the average midwife is with her ignorance. Of course I am not talking about any of you fellows, but all of you fellows that I am talking about.

"Now, Mr. President, I am about through. I want to leave one serious definite thought for you to carry back home with you. If some of you have been a little precipitate or know physicians who have been precipitate, recollect this.
months after the conception of a baby is the time for deliberation; it is the time for gentleness; it is a time for patience; and for God's sake never save time for yourself at the expense of your patient. Take care of your patient; go slow; go safe. 'Safety first,' safety always. I wish it were the time that you are talking about, Doctor Brydon, but it is not. You are indulging in a very pleasant dream. In all kindness and with sincere desire, as sincere as yours, let me say dream on, dream on, dream on, you have a long night of dreaming ahead of you."

**TREMENDOUS IMPORTANCE OF FINDING TUBERCULOSIS IN THE EARLY STAGE**

*A Fire Company Can Not Save a Burning House Unless Fire is Discovered Early*

**SO IT IS WITH TB**

*By P. P. McCain, M.D.*

Superintendent North Carolina State Sanatorium, Sanatorium, N. C.

Everyone appreciates the fact that even a fire company cannot save a burning house unless the fire is discovered early. Just so the best of doctors in the finest sanatoria can only cure those of their patients who come to them in the early stage. Under proper treatment, however, practically all early stage cases of tuberculosis will get well.

Of 863 cases of early stage tuberculosis treated in the North Carolina Sanatorium during the last thirteen years and who remained in the Sanatorium one month or more 92 per cent are living and 86 per cent are living and working. Of the early cases which remained in the Sanatorium long enough for their disease to become arrested all are living except one who was killed by accident.

**MODERATELY AND FAR ADVANCED**

Of the 1,241 moderately advanced patients treated during the same period 58 per cent are living and 44 per cent are living and working. Many of these cases of moderately and far advanced tuberculosis which are still living have their disease under control, are able to do a moderate amount of work and may live an indefinite number of years, but they are not well and they will always need to be careful of their health.

Such figures speak for themselves. Moreover the advantages of an early diagnosis and treatment are seen in many other ways than in the end results. Those with early tuberculosis rarely feel very sick and rarely have any amount of pain. After a few weeks rest in bed they look and feel about as well as ever before. Their period of bed rest is comparatively short, they are able to be up and around most of the time they are in a sanatorium, they do not need to stay in the sanatorium so long and they are returned to their full earning capacity much sooner. Consequently the expense of treatment is very much less.

But much more important is the fact that early stage cases of tuberculosis rarely have tubercle bacilli in their sputum and consequently are not contagious. Early tuberculosis is curable and is rarely infectious. On the other hand practically all cases of moderately advanced and far advanced cases have tubercle bacilli in their sputum and, unless they take the necessary precautions, are likely to infect those with whom they live.

**HOW CAN TUBERCULOSIS BE DISCOVERED EARLY?**

You will note from the above mentioned figures that only about 27 per cent of our cases treated at the North Carolina Sanatorium during the last thirteen years were in the early stage. This, too, in spite of the fact that we have made a special effort to interest both the laity and the medical profession in the early discovery of the disease. During this period we have examined in our Sanatorium diagnostic clinic and in the traveling diagnostic clinic of
our Sanatorium Extension Department more than 25,000 people. A large percentage of these early cases were discovered in these diagnostic clinics.

We cannot expect all cases of tuberculosis to be discovered early until all take the wise precaution of having periodic health examinations and until all general practitioners learn to diagnose tuberculosis in the early stage. Unfortunately, tuberculosis is the most deceptive disease. There are no characteristic symptoms at the onset. During the early stage the symptoms are always mild and at times the onset is so gradual that the patient is not conscious of not being entirely well. For this reason it is not safe for one to wait until he is sick before being examined.

**EXAMINE ALL CONTACTS**

It is especially important that all who have lived in the home with or who have been closely associated with a case of tuberculosis have a thorough examination. While tuberculosis is not contagious to the degree that measles, smallpox and other diseases are, it is communicable, and practically all those who live in the home with a case of tuberculosis whose sputum is positive are infected. This is evidenced by the fact that practically all contacts with an open case of tuberculosis give a tuberculin test. Tuberculous infection, however, does not necessarily mean tuberculosis. One who has been exposed to a patient with tuberculosis or one who has tuberculous infection may or may not have tuberculosis, and it is exceedingly important for him to have a thorough examination to find out definitely whether or not he does have the disease.

Really the only safe plan is for all adults to have periodic health examinations, because in our modern civilization where we are constantly associating with large numbers of people we are almost daily brought in contact with open cases of tuberculosis without knowing it. This is especially true in large towns and cities.

**SYMPTOMS OF EARLY TUBERCULOSIS**

Everyone with any suspicious symptoms of tuberculosis should by all means be examined without delay whether there is any history of exposure or of tuberculosis in his family or not. Unfortunately, there are no characteristic symptoms of early tuberculosis. There are different groups of symptoms which are suggestive and the presence of which should cause a patient to go to a doctor for a thorough examination.

The most frequent of these is the insidious group. There may be a slight loss of energy and strength. The patient does not have his usual "pep" or may tire a little bit more than usual. At the same time he may also have a slight loss of weight. It is very common for those who are busy and interested in other things and who are not thinking especially of their health to overlook this group of symptoms.

**CATAREHAL**

Cataarrhal symptoms are probably next in point frequency. The cough which continues longer than three weeks, whether dry or accompanied with expectoration should be investigated. In early tuberculosis the cough is frequently absent and it is nearly always slight and usually only in the early morning upon awakening. The expectoration is usually slight in amount and there is nothing characteristic about the color or odor. Blood streaked sputum, of course, had added significance.

It is especially important to remember that one may have tuberculosis without any cough or expectoration whatever.

**GASTRO-INTESTINAL**

Gastro-intestinal symptoms often give warning evidences of tuberculosis though of course they are more common in the more advanced stages. Loss of appetite and indigestion—a feeling of fullness, heaviness and sourness after eating—are the most common symptoms in this group.

**FEVER**

A slight degree of fever usually accompanies early tuberculosis. The temperature is usually subnormal or normal in the morning and elevated in the afternoon or evening. The fever usually subsides on rest and becomes elevated again after exertion. When tuberculosis is suspected it is exceedingly important to keep a record of the temperature at least every three hours during the day over a period of at least three or four days.

**PLEURISY**

Pleurisy, pain in the chest which is increased on deep breathing and which persists over a period of several hours or days, is nearly always due to tuberculosis. Anyone who has had pleurisy should not rest assured that he does not have tuberculosis.
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until he has had a thorough examination and stereoscopic X-ray pictures by an authority in tuberculosis. Occasionally pleurisy is the first symptom, though it is more frequent in more advanced tuberculosis.

HEMORRHAGE

A hemorrhage—the raising of a teaspoonful or more of pure blood from the lungs—almost always is due to tuberculosis and should be considered as an evidence of this disease unless proved due to some other cause.

INCREASED PULSE RATE

An increased pulse rate is usually found even in early tuberculosis. In early disease, however, the pulse rarely goes as high as 100 unless there is some other complication.

ANAL FISTULA

An anal fistula is frequently tuberculous in nature and anyone having a fistula should by all means have a thorough examination of his chest.

If all patients with any of the above mentioned symptoms and all those who have been closely exposed to open cases of tuberculosis would have a careful check-up, most cases of tuberculosis would be found in the early stage. We are greatly encouraged over the more interested and intelligent attitude of the public at large in recent years toward tuberculosis. It used to be rather common to hear otherwise intelligent and otherwise considerate people say that they were afraid to be examined for fear they might be found to have tuberculosis or because they did not want to know if they had it. Such ignorance and such indifference to the safety of others is fortunately becoming rare. We are greatly pleased that a growing percentage of the public at large insists upon frankness and thoroughness on the part of their family physician.

DIAGNOSTIC CLINICS

Through our diagnostic clinics here at the Sanatorium and through the diagnostic clinics of our Extension Department we are making a special effort to make it possible for anyone in this State who cannot afford to consult a private specialist to find out whether or not he has tuberculosis. If you wish to be examined either write to the Sanatorium and make an appointment. If you will do this the physical and the fluoroscopic examinations will cost you nothing. X-ray pictures will probably not be necessary. If they are, there will only be a very moderate charge.

UPLIFT

By ARTHUR GUTERMAN

The stars beheld in order, the mountains trembled;
The greatest asses in the realm assembled
To figure out what really ailed the masses—
A term denoting all the other asses.
An ass with ears as long as any other
Declared, "It’s just the war, my friends and brothers.
The war has quite demoralized the genus
Or species, kind or family asinus."
Next rose an ass inordinately solemn,
Who brayed "The stripe along our spinal column
Denotes that we are prey to weird neuroses
And horrible subliminal psychoses!"
Another said, "Our turbulence and riot
Result from lack of scientific diet;
So let us spread through pamphlets and epistles
That slogan of our fathers, 'Eat more thistles'."

Not so, a fourth objected, "All our worries, Our hasty tendencies, our kicking flurries—
As I’ve been hearing on the club veranda—
Are caused by secret foreign propaganda."
A fifth denounced reactionary forces,
A sixth, a base conspiracy of horses,
A seventh blamed unbridled legislation,
And eighth and ninth the younger generation.
Then spoke a tenth, "Dear Chasers after bubbles,
You haven’t touched the source of all our troubles
Which still remain, my fellows, pals and bunkies
The sad, sad truth that all of us are donkeys!"

‘It takes five years for any tree to produce nuts, with one exception. The exception is the family tree.’
WAKE UP!
AID IS NEAR—

EARLY DISCOVERY AND PROPER CURE

A LOT OF US WHO ARE SLEEPING AND NEGLECTFUL

TUBERCULOSIS

SNAP OUT OF IT

WOODLIEFF
SANATORIUM, N.C.
SCHOOL DENTAL CLINIC

This photograph is simply a reminder that in the year 1927 dentists employed by the State Board of Health treated the teeth of thirty-three thousand five hundred and twenty-two school children.
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The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils  Fly Placards  Sanitary Privies
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Eyes  Prenatal Care  Whooping Cough

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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RESPONSIBILITIES OF THE HEALTH OFFICER*

BY

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To prepare an inventory of the responsibilities of the health officer, one must assume an introspective state of mind. Day dreaming is sometimes a pleasant occupation. Perhaps if we dream of things as they ought to be, we may be enabled to see some of the responsibilities and opportunities which confront us in every day life. Therefore, let us dream of the health officer not as he is but as he should be.

The responsibility of any person, regardless of position, is the proper understanding of his place in the scheme of things. Can the health officer's place in the community be described better than as physician to the community? The community as a unit is his patient instead of the members of the community being his patients. One of the justest criticisms ever lodged against the Doctor of Medicine as health officer, is that he thinks in terms of individuals rather than of communities. Although medical training tends to emphasize individuals, the medical health officer should endeavor to think of his community as a unit rather than as many individuals.

The physician's first responsibility to his patient is the diagnosis of the patient's condition. The health officer should not be content to treat the symptoms of the community. He should make an earnest endeavor to diagnose its ills.

Communities have individuality. They differ from each other just as people differ. The causes of infant mortality in one community may be greatly different from those in another community. In community medicine, we should have individual diagnosis just as we expect the practicing physician to make a diagnosis on each of his patients.

The case record of a community will disclose that the family history with its consideration of racial tendencies, susceptibility, immunities, etc., is important, as is the past history of epidemics, disasters, etc. In the preliminary physical examination, we should consider the geographical location, the topography, the climate, the population and its makeup, the occupation of the people, housing conditions, recreational facilities, etc. Careful scrutiny should be made of the water supply, the milk supply, the food supply, and the excrement disposal system, for these factors have a distinct bearing on the health of the community. They are fundamentals. While much progress has been made in the water supply, the milk supply, and excrement disposal problems, the food supply problem has been sadly neglected with great frequency. This is particularly true of our meats. Locally slaughtered meats are often disgraceful to the community in which they are marketed. The health officer has a distinct responsibility in this problem. It is a responsibility he should not shirk.

The examination should proceed with a careful study of each and every factor
which contributes to community health or disease.

The temperature, pulse, and respiration chart of our patient is the mortality statistics of our community. Each health officer should make a monthly and yearly compilation of these data. In communities of relatively small population, such as we have in North Carolina, the abridged international classification of causes of death would seem to be more practical and more informative than the complete list. Following the assembly of these data, they should be carefully analyzed. We should have causes of death by ages. Crude rates for organic heart disease, for instance, are misleading. At present we assume that every person is born to die. It is those who die before reaching the age of reasonable expectancy that demand the thoughtful study of the health officer. Infant mortality rates without an analysis of causes and ages are confusing. The degenerative diseases are almost without exception a major problem in every community. The importance of this problem can only be determined by a study of the vital statistics. Definite information is necessary for an accurate diagnosis.

Morbidity statistics, while less accurate than mortality statistics, are valuable sources of information. In studying sickness and death, we must consider norms and trends in order to detect variations or fluctuations. This may be all painstaking and tedious but it gives the information which we need for intelligent diagnosis.

Responsibility for making a diagnosis rests upon the health officer but there is no necessity for his endeavoring to do this unaided and alone. There are the specialists of the State Board of Health, United States Public Health Service, and various private agencies who will help him. Sometimes there is difficulty in distinguishing between a bona fide consultant and a detail man who has some program to sell us whether we need it or not. These latter are generally more interested in the treatment of our patient with the particular remedy than they are in aiding in the diagnosis.

If one becomes discouraged in attempting a diagnosis of his patient he has only to look into public health history to receive encouragement. The first great contribution to modern sanitation was the report of Edwin Chadwick to the Houses of Parliament in 1842. This study still influences the British Ministry of Health. The first notable study in America was that of Lemuel Shattuck and his associates in Massachusetts in 1850. Of the New York survey in 1865, Haven Emerson states "It is, I believe, not too much to claim that no area or population was ever before or has been at any time since studied with such minuteness, such competence, or with such constructive results in terms of human life."

Our diagnosis need not be pretentious and cannot be final. We are working for ideal patients. Communities never get well and never die. New conditions arise that deserve new diagnosis. We should be alert in our observations, careful in our conclusions and courageous enough to change a diagnosis when we are convinced a change should be made. We should, however, attempt a diagnosis of the ills and problems of our community. No one else has the same interest in nor as much information about the community as its health officer.

The ills of any community are numerous. The treatment of those ills is complex. It is the health officer's duty to get the patient to take the proper treatment or treatments. Probably no community will take all of the treatments indicated. Someone must decide what is the most urgent or needed. The proper weighting of possibilities is a responsibility. Placing of first things first is difficult. The proper selection must be based on a painstaking estimate of the value of results per dollar invested. The health officer should be courageous in his advice but tactful in his insistence. The football team would prefer a straight march to the goal but finds it expedient to attempt end runs and lateral passes to gain ground. The health officer should study his tactics and plan his program that he may advance toward his goal.

In this plan he must determine the kind of a player he himself is best qualified to make. If he is a consistent pluggers, he should not attempt the spectacular. If he is spectacular by nature, it is inadvisable for him to change his style. Generally the health officer is captain of his team and is permitted to play the game of his choice. If he is true to his own style he will make more progress than if he apes the style of a successful neighbor.

He should keep in mind the condition
for which his community engaged him or
his predecessor. If he were called on
account of a typhoid fever epidemic, it be-
hooves him to see to it that typhoid fever
is a rare disease.

The Health Officer should issue state-
ments concerning the progress of his pa-
tient. Monthly and annual reports should
be made available to the public. These
may be interspaced with sundry news
items that convey information. The medi-

dum of disseminating information depends
largely upon the nature of the community
and the style of the health office. Some
communities are interested in moving pic-
tures carrying health propaganda. Others
are not. The same can be said of any
other medium. The mode of dissemina-
tion is not nearly so important as the
completeness of dissemination.

We should debunk our health education.
The propaganda which we issue ought to
be truthful and correct. It should not be
approved because it is clever, because it
is startling, nor because it is novel, but
because it is correctly true. Then we can
make it clever, startling or novel if possi-
ble.

In dealing with degenerative diseases,
we have in the past talked of organic
heart disease, of nephritis, and perhaps of
hypertension. We have not aroused much
action on the part of the public. We
have said little of cancer, yet in cancer
we have a degenerative disease which
makes a dramatic appeal. Therefore, can
we in rallying around the cancer pro-
gram accomplish what we have hitherto
failed to do, namely, an early diagnosis
not only of cancer but of organic heart
disease, nephritis, hypertension, tuberculo-
sis, and syphilis?

The health officer should check up the
completeness and the effectiveness of his
treatment at frequent intervals. There
have been many appraisal forms devised
for this purpose. The perfect form has
yet to be found but each when properly
filled out may reveal some weakness or un-
expected strength in our program.

It is the health officer's duty to interest
himself in the affairs of the community.
He has an opportunity to contribute to
its general welfare. Any improvement
which he may aid is good public health.

Rupert Blue, former Surgeon General, said
in substance that the most important pub-
lic health measure is a living wage for
every one. If a change in policy is poor
economics, it is poor public health.

The health officer should constantly en-
deavor to keep himself well informed. He
should have a liberal array of professional
journals, reports, and bulletins. He should
read them and file them away for future
reference. He ought to know what the
other fellow is doing and endeavor to try
new methods. He should try his hand
at writing that he may have a permanent
record of his mental processes. He should
attend professional meetings and exchange
ideas with fellow workers.

There is practically unanimous opinion
that it is the health officer's duty to ab-
stain from partisan politics. The welfare
of his program ought to be foremost in
his mind and should not be subjected to
the hazards of political turmoil.

The support of the organized medical
profession is one of the most desirable
objectives of the health officer. The best
method of securing this help ought to
have the most thoughtful consideration.
The border line of successful state medici-
cine can best be determined by the practi-
tioner.

There is another responsibility of the
health officer—the duty of enjoying his
work. No worker can do good work un-
less he has a pride in his craft. All one
gets out of life is a living. Therefore, to
enjoy life, we must enjoy our work. If
we do not enjoy health work we should
get into a position where the pay is better.
The profession offers poor financial re-
ward. Health officers will continue to find
their principal remuneration in the joy
of serving others. The search for gold is
not always profitable. Roger Babson in
his book “The Fundamentals of Prosperity” writes of an interview with the Presi-
dent of the Argentine Republic. Mr. Bab-
son asked the President if he could explain
the fact that the United States had out-
stripped her sister republics. The Presi-
dent's reply was startling. “When the Spaniards settled South America they came
in search of gold, but when the Pilgrims
settled North America, they came in
search of God.” Only a missing letter but
all the difference in the world.

Dr. C. E. A. Winslow in his presidential
address to the American Public Health
Association quoted from Dr. Benjamin
Lee's presidential address before the Asso-
ciation in 1901 as follows: “One who has
devoted the best years of his life to the study and practice of preventive medicine, and who thoroughly believes that next to the ministry of religion, the ministry of health constitutes the noblest calling in which man can engage, may be pardoned if he express the sentiment that, having received the verdict of approval from long valued friends and deeply respected peers, the summit of his ambition has been attained and earth has no richer prize to offer him." Most of us either have or expect to devote the best years of our lives to preventive medicine. All of us hope to have the approval of our friends and the respect of our peers. To attain these expectations and fulfill these hopes is our opportunity and our responsibility.

EVERY WEEK CLEAN-UP WEEK

About twenty years ago a very worthy organization known as the Civic League made its appearance in numerous small towns of North Carolina. The purpose of this league was to inaugurate a Clean-Up Week for such towns.

People who are now living and can remember the dirty, filthy conditions of nearly all such places at that time do not have to be reminded of the very patent necessity for a face washing, so to speak, for such towns at least once a year. In that day there was not an organized health department in North Carolina—city or county. Wilmington was about the only town that had an organization and an official even approximating what a whole time health officer and a city health department meant at that time.

A speaker at the meeting of the American Child Hygiene Association at Albany, New York, in June, 1917, presented a most interesting paper concerning the habits of the people living around the country districts contiguous to Schenectady, New York, describing how the mothers of the children every fall, at the advent of cold weather, sewed on their thick, heavy underwear so that it could not be removed until the following spring. On the arrival of spring and warm weather every year there would be a general bath-week observed throughout the district.

These old efforts in our small towns somewhat approximate the habit of bath-week around Schenectady and in some parts of Pennsylvania. Before that time there was never any united effort at clean up. Every small town in this section of the country was dirty, and seemed to be proud of it.

The one shortcoming about Clean-Up Week, which was readily perceived by wide-awake physicians and health officers, was that the clean-up did not last. It was fine at the end of the week and the town remained clean and sweet for a few days following the close of the week. So later on, it was not hard for the civil authorities of many of these small towns to urge the habit of making every week Clean-Up Week. From the standpoint of the health officer this means especially the destruction of breeding places which harbor malaria-bearing mosquitoes, careful attention to sewage disposal, and removal of anything which might contaminate the water supply or the food, and bring on sickness, such as typhoid fever, colitis, and other diseases of like character.

The City Health Department of New Bern sends us some lines, which we here-with publish, and which are a very happy expression of what every small town may do toward making every week in the year Clean-Up Week.

"ALL TOGETHER! LET'S GO!"

"Let every week be Clean-Up Week,
Make it a Habit, so to speak—
You'll like it!"

"Keep the rubbish all in a can,
Set it out for the city man—
He'll like it!"

"Grub all the weeds or cut them short.
Plant a little garden on the plot—
We'll like it!"

"Buy some paint and a paint brush, too—
Let your wife direct what you do—
She'll like it!"

"A city clean, without rubbish or weeds,
Dolled with the paint that old age needs—
Will vamp the stranger business leads—
Into our net this Summer—
They'll like it!"

It's good to have money and the things that money can buy, but it's good, too, to check up once in a while and make sure you haven't lost the things that money can't buy.—George Horace Lorimer.
"INDIGESTION" OR "DID NOT KNOW IT WAS LOADED"

One morning not long ago the newspapers of the State carried in the same issue two significant items. One of the items originated in the far eastern part of the State and the other in the extreme western section. One of the items described the death of a man 45 years old, who was sitting in a chair in his physician's office. This man had gone to see his doctor for the purpose of discussing with him what he thought was an attack of indigestion. Suddenly the man stiffened in his chair and immediately expired.

The tragic death of this citizen illustrates in a forceful manner the importance of people who suffer at any time from so-called indigestion, of consulting a thoroughly competent physician who will take the trouble to make an exhaustive and careful examination in order to see what is the matter with such a patient. Many authorities throughout the world, who may be considered authorities on their record of ability and study as well as experience, hold that there is no such thing as indigestion in the ordinarily accepted meaning of that term. These able writers contend, no matter how trivial or insignificant a so-called attack of indigestion may be, that there is generally some organic trouble back of such an attack. An ordinary digestive upset following the consumption of a gluttonous meal or of too much indigestible food, resulting in temporary distress, could not, under any consideration, be attributed to indigestion. Any person with normal digestion would probably suffer such consequences when no better judgment is exercised than to eat too much of impossible food. A classic example, and in a perfectly natural manner, such a situation may be seen at any time in the case of a very young infant when too much food is put into the infant's stomach at one time. The infant's digestive process, as well as all the other machinery of its body, is well nigh perfect during the first few days, at least, of its earthly existence. Therefore when the stomach is overloaded, a regurgitation process is automatically and naturally set up and the excess food is immediately regurgitated to the entire relief of the infant. Such a process certainly could not be called indigestion on the part of the baby. As an individual grows older, there is a greater tendency to maintain control over such process that the infant does not know how to control and could not control if it did. So the adult who is indiscr et in his living habits has termed his distress indigestion. In the past many physicians have helped along such a false premise through carelessness, indifference, laziness, or ignorance. However, the chief motive power behind the fine old indiges-
tion goblin is the patent medicine trust, which finds this one of the most profitable fields for the exploitation of the public.

The other item in the newspapers describes the killing of a high school girl by a loaded gun in the hands of a very young child. Naturally the family did not know the gun was loaded. There is very seldom a day throughout the country but that some newspaper somewhere records the so-called accidental death of some person because of a loaded gun carelessly handled by some irresponsible individual. There can be no earthly excuse whatever for any responsible member of a family leaving a loaded gun exposed about over the house where it is easy for it to fall into the hands of a young child. The idea of a shotgun or pistol being allowed in the hands of an irresponsible child as playthings is beyond the ordinary pale, and such families who permit anything of the kind should receive the bitter condemnation of the public everywhere. A pistol, with a load or otherwise, should always be kept under lock and key in a house where there are children. Shotguns should be kept unloaded and locked in closets until needed for legitimate use.

To our mind these two recorded deaths are in the same class. One individual thinks he has indigestion, or he is told he has indigestion by some person in whom he has confidence, when the truth of the matter is he has an organic heart disease, which might or might not have been controlled and his life prolonged for many years through a knowledge of the truth and an application of the principles of careful living under such conditions, together with the proper kind of medical treatment, prescribed by a competent physician. In the other case the baby, of course, had no idea what a gun was, what it was supposed to do, or that it was any more dangerous than a toy pistol from the corner store. The other individuals were just as complacent as the baby in allowing the loaded gun to be trundled around as a plaything by an irresponsible baby. There can be no doubt that three-fourths or more of the accidents of the world are easily preventable through the exercise of ordinary common sense and precaution, which every adult person ought to exercise in every day matters or be locked up in an insane asylum.

A discussion of this whole subject brings up one of the most important phases of the question seen by everybody everywhere all the time; that is, the custom of buying toy pistols, toy guns, and rifles, and such things for children to play with. These toys, while harmless within themselves, familiarize a very young child in his most impressionable years with the handling of guns and pistols. Therefore the natural sequence is that when he is a little older he has no fear of handling the genuine article. He can see no harm in so doing. His parents or adult guardians have encouraged the habit, and what more natural for the average child than to want a gun or rifle, when all the other parents of the community are providing their young offspring with such dangerous utensils. It seems to us that it is high time for people to realize that this country is no longer molested with savages and that for the greater portion of it, at least, there is very little legitimate hunting ground, and children should be encouraged to use other kinds of toys and playthings that are not so subtly dangerous as firearms.

MALARIA IN THE NORTH

The New York State Board of Health News in its issue of April 2, 1928, published an exceedingly interesting item, which we take pleasure in reproducing in the Bulletin. The item is or should be news to people throughout the far North and Northwest who have the idea ingrained in their minds that North Carolina and other States of the South in this particular section are malarial ridden commonwealths and that all of the United States north of the Mason-Dixon Line is entirely free from malaria.

Judging from the letters received frequently in departmental circles at Raleigh a rather large proportion of people in the aforementioned areas of the United States have the idea that to pull up from their homes and remove to North Carolina has meant that they would have to combat malaria and other fevers nearly all the time. Most of these people get their information concerning this State from such publications as the Rand McNally and Company's Pocket Atlas of the World, in which they solemnly say that the "law
lands of North Carolina are almost subtropical, humid, malarial." Of course the Rand McNally and Company writer who wrote the graphic description of the climate of North Carolina had probably never been inside the State. Naturally we have some malaria in this State, which is being gradually reduced all the time; but we have presented facts enough through these pages time and again which ought to establish the fact that malaria is a disease of world-wide distribution. It is likely to occur at any time and any place on the face of the earth where the conditions for malaria-breeding mosquitoes are present. It matters not whether that is in Canada, New York State, Alaska, or North Carolina.

The item in the New York Health News is right to the point and is information from a high source, which is what might be expected from that organization. Health officers or health departments worthy the name anywhere in the world never have tried to conceal the presence of communicable disease anywhere within their jurisdiction.

Following is the item referred to:

"FOREHANDED"

"Dr. Clarence O. Cheney, superintendent of the Hudson River State Hospital at Poughkeepsie, has already issued orders for the drainage of the pond from which the ice supply of the institution is obtained. Lateral ditches will be cut to make the drainage as complete as possible and pools left will be oiled. There were 80 cases of malaria among the inmates of the institution last year."

"Dr. William E. Bullard, health officer of the town of Mamaroneck and the village of Larchmont, who in past years effectively controlled mosquito breeding in his districts by thorough oiling of breeding areas, using crank case oil obtained from local garages, started the work of oiling two hundred or more low areas on March 5."

Now, one of the chief reasons we have for reproducing the above item is to illustrate one reason why there is no more malaria in states like New York than there is, and the reason is expressed in the language of the Health News item—they are forehanded. Note the time that this work in New York State, as described in the Health News, far up the Hudson River between New York City and Albany, was commenced. The item appeared in the New York Health News on April 2, as mentioned above, and the oiling and drainage of these districts affording these malaria-producing, mosquito-breeding grounds was well under way on March 5. The average citizen of North Carolina, if he thought anything at all about it, would think that on March 5 that section of New York State was still well covered with snow and ice.

We have always urged that whatever malaria control measures are undertaken in the way of drainage and oiling, to be effective in this State, should be well under way during the latter part of February, and certainly by the first of March. There are many cities and towns in North Carolina, outside of the more common rural areas in some sections of the State, which are troubled every summer by some malaria-bearing mosquitoes. All such places should take the lesson to heart of how they do it in New York State, begin in time, and thus effectively control and prevent the breeding of malaria mosquitoes wherever in this State they are liable to be found.

VITAL STATISTICS IN RALEIGH FIFTY YEARS AGO

The Raleigh Times publishes each day reprints from its files of ten, twenty-five, and fifty years ago. Some of these items are particularly interesting, especially those in the fifty-year column. Recently they published this little item, which was issued under date of April 7, 1878:

"Why can't the Raleigh Academy of Medicine keep in their Secretary's office a mortuary report book?"

The foregoing is significant in that newspaper men and other alert people fifty years ago were realizing the necessity for vital statistics. It is interesting to note in this particular that we have had in the State of North Carolina effective vital statistics for less than fifteen years. The point to be emphasized is that in any progressive movement a long time must elapse before the realization of the necessity for progress reaches from the thinkers in the vanguard to the rank and file of the people. Such items are encouraging to those of us who sometimes get impatient with the slowness with which wrong methods are discarded for better and more enlightened processes.
A HEALTH PRAYER

Throughout the past ages people have had examples of different kinds of prayers. We have the classic example of the Pharisee's prayer graphically set forth in the scriptures. There are the prayers of the self-righteous and the prayers of the cowards and the discouraged, the defeated and down-and-outs. The savages prayed to their Great Spirit, and throughout history, as races of men developed and systems of civilization have risen, one upon another, we have numerous examples recorded of the different deities worshipped by man in his long march in search of Truth.

Recently the papers about over the country have carried some fine little verses, the author of which remains unknown. These verses are said to have been found inscribed on a wall in an English cathedral. The sentiment is so fine and the application so universal, we are here publishing these verses for the benefit of many of our readers who have not already read them.

"Give me a good digestion, Lord, And also something to digest, Give me a healthy body, Lord, And sense to keep it at its best."

"Give me a healthy mind, good Lord, To keep the good and pure in sight Which seeing sin is not appalled But finds a way to set it right."

"Give me a mind that is not bored, That does not whimper, whine or sigh, Don't let me worry overmuch About the fussy thing called I."

"Give me a sense of humor, Lord, Give me the grace to see a joke, To get some happiness from life And pass it on to other folk."

CHOOSING A SUMMER CAMP

During the summer of 1927 there were probably more people camping at the same time during the summer months in North Carolina than at any other period in the State's history.

There are a number of causes for the increasing popularity of summer camping. Some of the items contributing to this commendable habit may be mentioned. In the first place, more people are engaged in office work, in stores, and in factories, and so on than at any time in the past. The confining work incident to close application in a store, workshop, or office for the entire year emphasizes in the minds of such people the desire and necessity for getting out in the open as much as possible outside of working hours. All the various cults as well as the teachers of physical education and the vast army of health habit practitioners all are a unit on emphasizing the desirability of roughing it in the open, at least for a few days each year. Another thing may be mentioned is the fact that low priced automobiles and good roads serve to accentuate the desire for traveling and sight-seeing, especially in the remote sections of our own State. High priced summer resort hotels are out of reach financially for the average office worker with a family, even though it may be small, when it comes to choosing a place to visit for the accustomed two weeks vacation in the summer time. Thus an increasing large percentage of such citizens are adopting the plan of camping the methods and details of which need no elaboration here.

As an illustration of just how desirable and wide-spread the habit of summer camping is, and how easy and how cheap it is to carry out, we are quoting a letter from a personal friend, who lives in northern New York, describing a trip his daughter took last summer. Similar experiences could be recorded in hundreds of instances to show the practice. Our friend says in his letter that "Our elder daughter, a physical education teacher in the city schools, hopped in her chevy chariot last Friday (this letter was written early in April) as soon as school closed, with another teacher and classmate, and the two girls drove all night to reach New Haven, Connecticut, the next forenoon in time for the annual exhibition of their old alma mater, Arnold College. The same two girls toured the country last summer, with complete camping equipment, all by themselves, through the desert, up Pikes Peak, to the coast, through the national parks, and rolled home just in time for opening of school.
Nine thousand miles of it at an expense of four hundred dollars for the whole business. All that worries us now is that Henry Ford may spring his aerial flivver almost any day and then we will not know where the children are nights."

The principal object we wish to discuss in this article is the necessity for campers exercising care and good judgment in the selection of a place in which to camp, even for one night. The larger and more liberally patronized camping places are generally more dangerous than the places selected where there are only one or two camping parties present. The reason for this is, of course, that diseases like typhoid fever and other communicable diseases are spread by carriers and others very easily in such places where contact is close and where primitive methods of sanitation are followed. The camp site should be chosen in a well drained locality free from mosquitoes and other pests which prevent the smaller children, who happen to be along with the family, from securing an uninterrupted night's sleep and rest without the danger of being infected with malaria. Unless absolute certainty concerning the water supply is assured, every drop of drinking water should be boiled before it is used. In some of the larger camps of the State the habit of having the location selected and approved by the State Board of Health is coming to be recognized as an important provision. The experts of the State Board of Health can advise and approve the sewage disposal methods as well as have the laboratory add its guarantee to the purity of the water supply. There is no law requiring the State Board of Health to do this, and no State law requiring a camp proprietor to put into effect such methods; but the simple approval of the State Board of Health, after the proprietor of such a camp has requested the assistance of the Board, goes a long way toward assuring safety. The next thing of importance is to be sure of the purity and safety of the milk when local supply is depended upon. A good safe plan to follow, unless assurance of purity is definite, is for all campers to take along a supply of evaporated milk, which answers every need for children and adults on a camping trip and which, of course, would be perfectly safe.

Even today typhoid fever is put down in medical literature as "autumnal fever" or "vacation fever." The reason is that in the past in cities and towns having approved water and milk supplies with the menace from typhoid fever reduced to a minimum, late in the summer many of the residents of such places go off on a vacation to the mountains, seashore, or other summer resort places, "roughing it," as they call it. They drink water from every stream they run across, and in other ways totally disregard the laws of good sanitation, with the result that in the past thousands of such people have gone back home to succumb to an attack of typhoid fever contracted on such trips. The camping trip in the open, when properly safeguarded, may be the means of assuring an exceedingly happy and restful vacation period with perfect safety to the individual fortunate enough to enjoy such a trip; but frequently when the vacationist is careless and ignorant of ordinary rules of sanitary safety, the result may be anything but pleasant in its after effects.

**URTICARIA—NETTLE-RASH—HIVES**

We have frequent inquiries from people requesting literature on the subject of Urticaria, popularly known as Nettle-Rash. This is a condition characterized generally by a more or less sudden appearance of smooth, somewhat elevated patches which are nearly always whiter than the surrounding skin and always attended by severe itching. This eruption seldom lasts longer than 48 hours at the outside. It has been known, however, to exist in a more or less chronic form. The disorder generally arises from irritation either of the gastro-intestinal tract or the mucous membranes of the genito-urinary area, and sometimes respiratory irritations will produce the condition. Violent mental upsets occasionally cause an attack. Irritations from certain kinds of insects, such as caterpillar poisoning, have been known to produce a severe form of urticaria. There is one form of the disease known as Giant Urticaria, chiefly affecting the face and eyes, at which time the eyes are almost closed, on account of the swelling incident to an attack. Certain forms of wheals retain their red color. This is especially attendant on attacks due to ir-
ritation from sea bathing or salt water bathing. Frequently an attack is produced by the use of certain drugs, such as quinine, when habitually taken. A very troublesome form of attack frequently follows the use of serums, such as diphtheria antitoxin, which are characterized as serum disease. This, of course, caused by a foreign protein substance in the blood.

In very sensitive individuals suffering from such diseases as asthma or hay fever, when treated with the protein substance which causes the asthma or hay fever, such treatment frequently causes severe attacks of urticaria. Many people suffer after eating some particular kind of meat or vegetable, fruit, eggs, or milk, or other articles of food. Many such people can eat these articles at certain times and over long periods without trouble. Other individuals can seldom eat any particular article that causes the attack without its being followed by a more or less severe attack of urticaria. It is, to say the least, an exceedingly troublesome and annoying condition, although serious results seldom, if ever, follow a simple attack of urticaria unless it accompanies, as a complication, some other more serious disease.

When a person has any good reason to suspect that any particular article of food is the cause of bringing on an attack of urticaria, such an article of food should be rigidly excluded from the diet at all times. The same thing may be said concerning attacks following the use of any drugs or chemical, whether applied internally or externally. When the use of any such drug is followed by urticaria it should never be used under any circumstances. This applies, or course, to the common habit of home medication habitually followed by many people. One exception may be noted to the foregoing, and that is in the rare instances where small babies are susceptible to cow's milk. In such instances what is known as desensitization or tolerance to such a substances may be easily brought about by simply giving the baby a few drops of milk at a time for two or three times a day, gradually increasing the dose until tolerance is maintained, when milk can be taken just like ordinary normal people. This is very important, because to deprive a young child of such an important article of diet as milk would be most unfortunate.

When an attack of suspected nettle-rash occurs, unless the patient is subject to frequent attacks, a physician should be consulted at once. This is important especially if the patient is a baby or young child. While most attacks are characteristic and appear as described in the beginning of this article, in children there are many variations in appearance. In the first place a child is not likely to suffer such intense itching as an adult, and many children complain very little about itching. Frequently the eruption is confined to the back and chest of a small child and is also more reddish in color. This kind frequently occurs when complicating an attack of tonsilitis or other respiratory trouble. When such an attack occurs in small children only a competent physician is able to make a diagnosis differentiating it from such disease as scarlet fever and measles. It is also necessary to have the aid of a good physician when patients, either children or adults, are subject to periodical attacks. The physician can usually locate the cause of such attacks and greatly aid the patient in eliminating the attacks. He can advise as to diet regulations which is often necessary to ward off attacks. Precaution and careful avoidance of all primary causes of attacks of urticaria is of importance to sufferers from this annoying condition.

It is best to leave advice about treatment to the physician altogether. Each individual sufferer usually may require attention of a specific nature, which can only be decided by a competent physician. In a general way it may be said that abstinence from food for a period of twenty-four hours, a prolonged hot bath with a handful of baking soda or epsom salts in the water, together with an alkaline laxative, is good safe first aid treatment. But do not forget the importance of a diagnosis as first thing necessary in children. When sure the attack is genuine nettle-rash a child may be given milk of magnesia as the most suitable alkaline laxative for children. Adults may get better results from epsom salts according to individual preference. Calomel nor castor oil should be given to adult nor child unless specifically prescribed by the attending physician. Children should be kept in bed for a day or two until the condition clears up. An adult is probably less comfortable in bed than out. But see your family doctor about all this.
DEATH FROM BICHLORIDE OF MERCURY POISONING

If all the graves of all the children in the world who have been wantonly murdered in the last half century by innocently swallowing bichloride of mercury tablets left carelessly within their reach, were placed end to end they would probably circle the earth.

According to a six to three decision recently rendered by the United States Supreme Court the Harrison Narcotic law is declared to be constitutional because it is a "Revenue producing measure." In other words the reliable physicians of the country have to pay a tax to the Federal Government before they may be annually granted the privilege of purchasing or prescribing such substances as codeine for the relief of physical pain. Furthermore they have to be assigned a number like a convict, furnish records at all times for bureaucratic inspection, checked at the drug stores and so on before being in position to relieve a patient's pain. And yet any drug store or so-called drug-store anywhere can sell freely in any quantity bichloride of mercury, one of the most dangerous poisons extant. Every day a newspaper somewhere has a headline like this: "Child Dies from Swallowing Bichloride Mercury Tablet."

It does little good to rail at people for being careless about leaving such poisons within easy reach of irresponsible children. Most of them never think about it until it is too late. The truth is that a bottle of bichloride of mercury tablets has no place outside a physician's handbag or an operating room. It is one dangerous poison that has absolutely no place in the medicine chest of any home or anywhere else about a home or apartment. There is some necessity for such drugs as tincture of iodine being kept at hand for treating trivial wounds in the average family; but none whatever for the presence of bichloride of mercury. The moral, respectable, careful householder would almost as soon have a live rattlesnake within reach of helpless children.

Far be it from this writer to advise the passage of any more laws, but it would be a fine thing if the bureaucrats at Washington could junk about four thousand of their rules and regulations and substitute therefor some method of control of the sale of this dangerous poison.

NECESSITY FOR EVERYONE KNOWING SOMETHING ABOUT FIRST AID

One of the finest things about the Boy Scout Organization is their scrupulous attention to first aid. That organization's system of teaching first aid should be commended to every public school in the country, and should be carried through just as carefully in every seventh grade in the State as the Boy Scout Organization teaches it in their training camps.

There is no way of estimating the number of lives which have been needlessly lost in the past on account of ignorance, to say nothing of fright and excitement possessing those in contact with an injured person. The two chief causes for untimely deaths following injuries are: (1) wounds, which may be more or less slight, causing hemorrhage; (2) the various injuries such as electric shock, lightning stroke, or drowning in which the principles of resuscitation are practically the same. And it is important that a knowledge of the necessity for instant ap-
application is possessed by somebody present when such an injury occurs.

Too frequently the newspapers report deaths from loss of blood following slight injuries, because no one seemed to know that a person may bleed to death in a very few minutes from a slight wound in certain places of the body. A recent occurrence may be cited in Rockingham, happening to an employee of one of the big corporations, in which a splendid young fellow lost his life following an automobile accident in which a small blood vessel was punctured, which caused his death from loss of blood, and which could have been easily prevented. The pitiful part of this case is that the particular corporation which employed him has an especially effective system of first aid teaching. In this case the sufferer himself, along with every other employee of that big organization, knew the necessity for first aid and how to apply it almost as well as the average boy scout; but it seems that no one was present to aid the young fellow, who had any knowledge or presence of mind whatever.

Every young person should have bred into his very marrow the knowledge that a bleeding blood vessel should have instant attention. It is one of the easiest things in the world to stop temporarily, when the wound is in one of the limbs. The hemorrhage can be effectively controlled in such cases through the simple method of tying a cord around the limb between the wound and the body. The cord should be sufficiently tightened to stop the circulation and that is all there is to it. If anybody present has a rope or a string handy, a piece of wearing apparel, a large handkerchief, strip from a lady’s dress or skirt, a string, a strip torn from a man’s underwear—anything to bind the limb and constrict it tight enough to stop the bleeding is all that is necessary. Let it be remembered that this is the first thing to do. Other methods of first aid can be afterward applied until a physician takes charge of the patient.

In the case of drowning, the old methods of rolling on a barrel were cruel and ineffective, and generally if the victim had a chance of resuscitation, such treatment prevented his reviving. The treatment to apply to a person rescued from drowning or from a person struck by lightning or suffering an electric shock is identically the same. The following is known as the Schefer or Prone Pressure Method, of inducing artificial respiration; and the National Commission on Resuscitation from Electric Shock sets forth the following rules for carrying out this method of resuscitation:

1. Lay the subject on his belly, with arms extended as straight forward as possible, and with face to one side, so that nose and mouth are free for breathing. Let an assistant draw forward the subject’s tongue.
2. Kneel straddling the subject’s thighs and facing his head; rest the palms of your hands on the loins (on the muscles of the small of the back), with fingers spread over the lowest ribs.
3. With arms held straight, swing forward slowly so that the weight of your body is gradually, but not violently, brought to bear upon the subject. This act should take from two to three seconds.
4. Then immediately swing backward as to remove the pressure, thus returning to original position.
5. Repeat deliberately 12 to 15 times a minute the swinging forward and backward, a complete respiration in four or five seconds.
6. As soon as this artificial respiration has been started, and while it is being continued, an assistant should loosen any tight clothing about the subject’s neck, chest, or waist.

A slight variation in the above direction is to bend one arm at elbow, the arm on side toward which the face is directed. That position gives room for better breathing. An additional precaution is to keep the patient warm while carrying out the efforts and afterward. It is also important to keep the patient lying down, even when breathing is established and the patient is ready to be moved. A stimulant such as a teaspoonful of aromatic spirits of ammonia in water if available, or a cup of hot coffee, should be given as soon as the patient can swallow.

Many fatal accidents could be avoided and many useful lives spared by effective application of the foregoing methods in the two general classes of dangers described above.

“There is not one single thing in preventive medicine that equals mouth hygiene and the preservation of the teeth.” —Osler.
TABLE SALT FOR CONSTIPATION

It is an unfortunate fact that many people have the idea that table salt taken in teaspoonful doses or larger on arising in the morning is a good remedy for constipation. This habit is varied by some people taking the salt dissolved in cold water, others taking the dry salts followed by a glass of either hot or cold water. In any event the practice is harmful and even dangerous in the case of many people. Nature has an extremely wise balance of such substances in the body of a normal individual. Table salt is a substance known as sodium chloride which is an ingredient of the blood of all healthy people. The normal reaction of the blood always being slightly alkaline, any habit which tends to upset this finely balanced arrangement can do the patient no good, and may result in infinite harm. For the most part constipation is a condition nearly always due to "habit errors" of one kind or another. So, to substitute a more dangerous habit in an effort to find relief for another habit is poor business. Better let the excess table salt habit alone. It is not only likely to upset the chemical balance in the blood sooner or later, but it liable to bring on trouble with the kidneys and other evils. Unless organic disease is present somewhere in the digestive tract causing the constipation, that condition can ordinarily be remedied by careful attention to diet and the observance of regular habits.

ISOLATE SICK CHILDREN

About the only way that parents can materially assist in lowering the morbidity rate in the communicable diseases of childhood is to adopt the habit of isolating immediately any child in the family who appears sick from any cause. We realize that this is often an exceedingly difficult thing to do. In families where there are several children and where there is little or no excess house room and where the mother is burdened with looking after a fairly large group of children without adequate help, this would seem almost impossible to do. But even under such circumstances much can be done.

It is very important when young children first start to school and who have not had such diseases as measles and whooping cough, and when there are other children still younger in the family, for such school children, when they appear sick from any cause whatever, to be immediately isolated from the smaller children in the family. This should certainly be done until a definite diagnosis can be made of the ailment from which the little school child may be suffering. The child should be kept altogether away from the smaller children. It should have separate drinking and eating vessels for the day or two necessary, before a diagnosis can be made or the indisposition passes, or eating and drinking vessels should be boiled for at least five minutes after the child uses them. The observance of this one little point, if carried out whenever and wherever possible, might be the means of saving the lives of many infants and very small children who contract such diseases at about the worst period in their lives.

OUT OF THE PAST

People are prone to complain that the world is slow in making progress toward that divine consummation so superbly described by Tennyson. We are speaking of knowledge and spiritual values. It is only when we stop to contemplate the actual progress achieved during the recent past that we are amazed at the almost superhuman advancement made by mankind in the present epoch of human history.

The history of medicine and surgery affords an always intriguing study in any comparison of customs in the past with those of the present. Medicine and surgery have to do with physical human relations. The direct, personal, individual contact that each person has with the verities of life and death. In contemplating the success of quacks and cults of the present day we should not be discouraged, if we take the trouble to compare the vast improvement that has been made in this field in recent times, to what was going on only a century or two ago. In the 16th and 17th centuries while genuine scientific knowledge was making rapid advancement, it is astonishing to learn how much of it was mixed up
with ignorance and superstition. Along about the year 1600 Fabry of Hilden known as Fabricius Hildanus, was according to Garrison, about the only well educated and competent surgeon in Germany. This great man has a statue to his memory near Dusseldorf, Germany, and is known as the “Father of German Surgery.” He was said to have been the first surgeon in all the world to advocate the complete removal of the breast and axillary glands in cases of cancer of the breast. He is said to have been the first surgeon in the world to successfully amputate the thigh. His tourniquet devised for the control of blood while amputating an injured or diseased limb, has been used by many a country physician in an emergency even in the present century. He was the author of several important medical works. He was one of the first surgeons to show that injuries to the head may be a cause of insanity. He used a magnet for extracting iron fragments from an injured eye. He invented an ear speculum. He devised the first practical drug chest for field use of armies. And yet in the face of all this advanced scientific knowledge he was a believer, “like most surgeons of the day” (only three hundred years ago) “in the weapon-salve, which was applied to the weapon instead of the wound.” Ponder that if you will. The best educated surgeon in the mighty German empire only three hundred years ago practicing the application of salve to a sword, or spear, or arrow, for the cure of a wound previously inflicted on a human being, and that person possibly miles away at the time the salve is subsequently applied to the wound. Many years later, about 1658 to be exact, Sir Kenelm Digby, a famous English Surgeon, delivered a celebrated lecture on his “Hermetic Powder” before the faculty and students of a great European University. Sir Digby probably was the most famous advocate of the weapon salve in Europe. In later years his powder was probably a refinement of the weapon-salve. Like all other superstitions in history this amusing (to us now) therapeutic idea was based on some idea back of it. In this case it seems that the idea was an old tradition of “sympathetic magic” existing “between parts of bodies separated in space.” When we contemplate such practices by the foremost surgeons of their time, three hundred years ago and less, can we help from realizing that people live in a New World, since the days of Louis Pasteur and Joseph Lister. And what a debt all of us owe to Pasteur and Lister and our own Oliver Wendell Holmes, and Crawford W. Long. Not only is that debt an obligation of scientists, but just as much a debt that the farmer and his wife and the man on the street and his wife owes. For always the poor and ignorant have been the chief sufferers at the hands of quacks. And the quack thrives only on ignorance, his own and that of his victim.

ATTENTION HAY FEVER SUFFERERS

In looking over a recent issue of the esteemed Saturday Evening Post, the advertisements of which are always interesting as they bear every evidence of being written by artists in their line, we ran across a full page ad purporting to be “a message of vital importance to the more than fourteen hundred thousand hay fever sufferers in America.” We were right then and there interested in finding out just what was conveyed in this important message to these sufferers. We were interested because a considerable portion of the mail received by this department annually is from sufferers inquiring about the merits or demerits of the new crop of panaceas appearing from day to day and advertised in the various newspapers of the country for hay fever sufferers. With the possible exception of our old friend Catarrh, it seems to us that more people are interested in what to do about Hay Fever than any other one ailment which affects the American people en masse. As a matter of fact, hay fever may almost be considered the legitimate successor to catarrh. This advertisement which we are referring to concluded its page of superlatives with the clincher that this particular method is advertised in the official house organ of the organized medical profession of America, published in Chicago. We reached for our current copy and, bless Paddy, we had no trouble in finding it occupying a nice, respectable place in our beloved Journal along with the antigens, etc., and so on.

Now, dear reader, be patient, we are coming to the point of interest to you right now. This great aid to people who
suffer from hay fever, rose cold, pollen asthma, and so on is an electrically operated machine. This machine draws the air into the room from the outside, filters it, and purifies it, leaving out such particles as tobacco smoke that might be in the air, and all the fine particles on which the hay fever pollen rides, and makes for absolute comfort to the patient. The only thing necessary, it seems, for the patient to do is get himself inside of an air-tight room, in which no air is available from any other room in the house or outside, plug the connection to the machine in the electric socket, just like turning on the radio, and the rest is done for him. As long as he sits in this air-tight room and breathes this filtered air, he will be in a class with the Sanitary Baby and the Prophylactic Pup of classic history.

It has been observed that the trouble in getting an antiseptic which would kill the germs of diseases in people suffering from tuberculosis or other such diseases that any remedy which would kill the germs would also kill the patient. In this case it seems that it is not necessary to boil the patient, but only to sterilize the whole room and simply buy this machine, install it in an air-tight room, and the rest is easy.

The only trouble with such a proposition is that the vast majority of people suffering from hay fever have to work for a living and the air breathed in the ordinary room is seldom polluted to any serious extent. Such elaborate treatment would be useless for most of these patients, because, in their daily work, it is the outdoor exposure in getting to and from work for office workers, and the outdoor polluted atmosphere in certain seasons of the year for all outdoor workers which constitute at present an insurmountable obstacle against seeking protection in any such manner.

It is possible that some other enterprising manufacturer will devise an air-tight box, which the sufferer may fit over his head with an air purifying machine, which he can carry around in his pocket. Or it might be he could fit him on a rubber suit like Major Hoople's, which would answer the purpose. Anyhow, we hope that the workers in the research laboratories will continue their efforts in improving and perfecting their individual antigens.

Seriously speaking, however, it may be that this machine can afford relief to certain wealthy people who are able to have it installed in a suitable room and who can stay in that room and have all their wants properly attended to throughout the particular season in which they suffer most.

THE CAREFUL TB IS NOT DANGEROUS

The careful TB safely disposes of all sputum by never spitting in anything except a sputum cup that can be burned when used. The careful TB knows that the germ which causes tuberculosis is contained in the discharges from his mouth and nose—in the sputum, the saliva, and the spray from coughing and sneezing. The careful TB knows that if he takes care that these discharges are safely disposed of by burning they will not infect others with his disease.

He always covers his mouth and nose when he coughs or sneezes. The careful TB is always very careful to cover his mouth or nose with a clean rag, a piece of gauze, or a paper napkin when he coughs or sneezes. He never uses his bare hand or a handkerchief. If he uses the bare hand he will get the germs on his hands and transfer them to the articles he touches. Handkerchiefs would have to be burned when used, or boiled for five minutes before going to the laundry. It is cheaper to use a paper napkin or a gauze that can be burned.

If sputum is accidentally spilled the careful TB covers it for one hour with a pure disinfectant, wipes it up with a rag, which is burned, and pours a 5 per cent disinfectant solution on the spot, which he allows to remain for two hours.

Disinfecting his room. The careful TB takes the greatest of pains to see that the disinfectant comes in contact with all surfaces, that the room is well closed, and uses formaldehyde candles, which can be secured at any good drug store. He leaves the room closed for twenty-four hours, and for three consecutive days afterward lets all the sunlight possible into the room. Or he hangs each article of clothing or bedding, or floor covering, separately in the sun for three days in succession. He knows
sunlight is the best germ killer, and if he can get plenty of it on each article the germs will be destroyed.

He never kisses anyone if he coughs or expectorates, and does not kiss anyone on the mouth even when he does not cough.

Dishes and drinking vessels unless kept separate from others in the household are boiled for five minutes, or soaked for two hours in a two per cent disinfectant solution before being washed.

Surplus food is disposed of by burning. Scraps of food, if boiled, may be fed to hogs, dogs, and chickens.

Laundry. The careful TB's clothes, bed linens, and towels are either soaked for two hours in a two per cent solution or boiled for two hours before being washed or sent to the laundry.

The careful TB sleeps alone on a screened sleeping porch, or in a well ventilated room, during all seasons of the year.

His rooms are never dry-swept. Clouds of dust may contain germs which are breathed directly into the lungs. Strew damp sawdust, old tea leaves, or bits of wet paper on the floor before sweeping.

The careful TB knows that children are more susceptible to tuberculosis than grown-ups and does everything possible to protect his own and other children from his disease. He never kisses or fondles children when he is coughing, and is careful that at all times he observes the precautions that make him a careful TB, hence not a dangerous TB.

THEORY AND PRACTICE IN DENTAL WORK FOR CHILDREN

In the April issue of Oral Hygiene, a dental journal of national circulation, appears a very thoughtful article by Dr. Walter T. McFall, director of Mouth Hygiene in the Parker School District of Greenville, South Carolina. The title of Doctor McFall's article is "Betraying a Trust." Doctor McFall is a dentist of fine repute, and in this article he was speaking to his fellow dentists.

On account of the fact that for the last ten years the North Carolina State Board of Health has endeavored, in season and out, to impress upon parents the extreme importance of caring for the temporary teeth in time, and regularly, we are quoting some of the pertinent paragraphs from Doctor McFall's paper. This extract should prove interesting to dentists who have not seen the whole paper, as well as parents and teachers.

Doctor McFall says: "For years all kinds of propaganda have been employed to educate the people as to the significance and care of the mouth and teeth, until today there is a wider knowledge of these important subjects than ever before. One phase of our instruction to the laity has related to the necessity of caring for the teeth of children, and considerable emphasis has been placed upon the importance of preserving the deciduous set. Now comes a very peculiar angle and one which must be faced with some degree of frankness. The fact is, that while our writers and lecturers have been telling the people that the deciduous teeth must remain until such time as their successors are due to appear,
it is too frequently the case, that when parents take their children to the dentist, they are told that deciduous teeth are so soon to be lost there is no necessity to insert fillings or to put forth any extra effort to save them. The teachings of the writers and the practice of the operators do not tally, and there is doubt and confusion in the minds of the parents. If any fact is well established in dentistry, it is that the deciduous teeth have an important function and a definite field of usefulness, and that they should be preserved till this function is fulfilled.

"Why is it, then, that dentists continue to tell patients such fundamentally wrong things? Is it because the management of children does not appeal to them, or that they consider it too much trouble or too unprofitable to care for children's teeth? Which ever it is, there is no basis of equity or justice in it, and the practitioners who do these things are remiss in one of the most fundamental obligations incumbent upon professional men.

"If a practitioner is unsuited by nature or temperament to properly care for children, he should be honest about it, and should turn them over to others who are in every way well qualified to perform this service, and who are glad to do it. There should be greater harmony between preaching and practice in this important matter, and unless we can induce our operators to change their tactics and make good where their child patients are concerned, we would better refrain from educating the public any further on these lines. The present situation is not only illogical and unjust, but it actually places the profession in a most ridiculous position before the public. We owe it to children in the light of what we have been teaching and in the light of what is right and honorable, that we accept the responsibility for the proper care of the teeth, and not until this conviction finds lodgment in the hearts and minds of the rank and file of the profession, can we truly be said to have made good in the estimate of the world."

"Eugenists seem not entirely consistent. When they are dealing with the poorer classes all is heredity; education can do nothing for these people; if environment is bad, it is because heredity has made it so. Poor stock! But in dealing with the degeneracy of the prosperous—luxury, decay of family life and failure to reproduce—is this due to heredity? Not at all! This is superior stock in a demoralizing environment. Let them be morally improved, coaxed to reform their habits and have more children."—Chas. H. Cooley, "Life and the Student.

Still building them under State Board of Health regulations. And spring and summer is the time to get them built.
Before Trench warfare in France, in 1914, Vincent’s Infection was well recorded in the literature as a form of Sore Mouth. The organisms that caused the oral infection had been described, but a specific therapeutic agent had not been discovered. Apparently, it was a rare disease. Very few members of the medical profession and even fewer members of the dental profession were familiar with it.

In France, during the war, Trench Mouth was more common than were Typhoid and Malaria during the Spanish War, and the Dentists in the Medical Corps of the Army very quickly recognized it. In addition, they soon found that Sodium Perborate was a specific. Many other chemotherapeutic agents were employed, including the aniline dyes and some forms of Arsenphenamine intravenously.

Vincent’s Infection of the oral cavity is a disease caused by Bacillus Fusiformis and Spiracheta Vincenti. The dual organisms of Vincent’s Infection are two forms of the same organism. The presence of these two organisms in Vincent’s Infection was brought out by Vincent in 1898.

Vincent’s Organism is anaerobic, and lives best in a slightly acid medium.

The growth of the organism changes its environment in such a way that it is self-limiting, but not usually self-extirminating. (This is true of practically all animal parasites).

Fusiform is more resistant to unfavorable conditions. It will not grow under aerobic conditions, but will live for several days.

Severe acute Vincent’s Infection is characterized, in the mouth, by lesions covered by a grayish necrotic membrane, which, when rubbed off, leaves a raw, bleeding surface. It is very painful, is accompanied by fever, headache, malaise, nausea, marked salivation, gingival hemorrhage, constipation, and a peculiar “sweetish, sour” odor of the breath. In some cases the toxemia is quite marked.

Vincent’s Infection of the oral cavity is frequently confused with Vincent’s Angina, which is the throat condition caused by the same dual organism.

You know that nature’s reaction to insult is manifested by inflammation, by hypertrophy or absorption, and by pus formation. Inflammation is characterized by swelling, redness, heat, pain, and loss of function. Those diseases that excite the most violent reaction are, as a rule, acute. They reach a climax and then subside usually resulting in complete cure and immunity for life. Those that do not excite inflammation do not reach a definite climax, but become chronic. They do not produce immunity, and in the end are very destructive.

Vincent’s Infection is a disease which does not cause pus formation. When acute, the pain is intense. Nature cries for outside help because she seems almost powerless. The other signs are not marked. It does not seem to enter the blood stream to any great extent, but progresses by destruction of the connective tissue. The endothelium remains intact, but is easily broken down mechanically on account of loss of support and protection, causing intense bleeding. And this bleeding is Nature’s only defensive reaction. Having no other means, she attempts to wash the enemy away. The saliva becomes thick and mucinous, and it is present in great abundance.

Most cases are checked in their growth and eradicated by the use of oxygen-liberating compounds. I have used successfully Potassium Permanganate, Sodium Perborate and Hydrogen Peroxide.

A ten per cent of Chronic Acid has been used to good effect in many of the cases to come under my care.

The diagnostic signs of mild, chronic Vincent’s Infection are practically identical with those of mild, chronic supplicative periodontoclasia. The gums bleed easily when brushed, there being some chronic passive congestion. When closely questioned, these patients will usually give a history of Vincent’s Infection having been present a year or more ago, some having had treatment for it. It may be of value...
to know that these cases do not respond well to the usual treatment for suppura-
tive periodontosis.

Vincent's Infection is a mildly communi-
cable disease, serious but seldom fatal. It
becomes very infectious at times.

The greatest obstacle we encounter in
the treatment of this disease is the lack of
co-operation on the part of the patient.
In this connection let me state that it is
well known fact that many acute infections of the gingivae are necessarily
due to Vincent's organisms, and further-
more, that many cases of Vincent's Infection go through the acute stage without
the usual pain and Trench Mouth odor; therefore it may be well, in doubtful cases, to
make a microscopic examination of a
smear to verify the diagnosis.

Dr. Paul J. Boyens, of San Francisco,
suggests using Chrome acid under pres-
sure. The first step in this treatment con-
sists in spraying with a weak solution of
Hydrogen Dioxide in warm water until
the loose detritus is removed. Follow with
warm water to remove the dioxide. Next
use a two per cent solution of Chrome acid
in a spray bottle under an air pressure of
40 pounds. Spray around each tooth and
well into each interproximal space. Re-
sults depend upon the pressure. Use this
one or more times a day in the severest
cases, and less often in sub-acute or chronic
cases. He claims that the relief that the
patient experiences is almost miraculous,
and acute symptoms disappear almost im-
immediately; but adds that follow-up treat-
ment should not be neglected, as the pa-
tient may have a recurrent attack almost
as violent as the first.

I have found that with the beginning of
treatment it is beneficial to prescribe a
good cathartic to improve the general
condition of the patient and to eliminate
systemic toxins.

According to Doctor Stillman, the disease
is not self-limiting, and must be combated
vigorously. The objective of the attack on
these micro-organisms should be to "break
up house" for them; which is readily ac-
complished by bringing air into their abode,
thereby rendering it untenable. Hence the
use of Sodium Perborate, the efficiency of
which lies in its power to liberate oxygen,
for the Vincent organisms are anaerobic in
character.

Astringents and Escharotics, such as
Iodine, are contra-indicated, and the ampu-
tation of any part of the gum tissue no
matter how much swollen, is wholly un-
justifiable.

It is my impression that the average
dentist pays little, if any, attention to the
bacterial flora of the oral cavity; or more
cases of Vincent's Infection would be de-
tected. Because of this I am naturally led
to urge the adoption of a routine search
for bacteria in all pertinent cases. The
propriety of such a procedure becomes
more apparent when it is borne in mind
that the presence of this type of micro-
organism is not inconsistent with the total
absence of any cardinal symptomatology.
Thus particularly as an instrument of oral
prophylaxis—and this is the field with
which dentistry is professedly most con-
cerned—would such a routine examination
be effective; for by this means those cases
would come to light wherein the organisms
lie in a slumbering state, awaiting the
stimulus that will arouse them into activ-
ity. It is, in short, the substitution of
preventive dentistry for curative dentistry.

In this connection, I recall that Doctor
Hyatt, director of the Dental Division of
the Metropolitan Life Insurance Company,
emphasized the fact that the border line of
the Gingivae is eight times as long as the
cripts of the Tonsils. It is conceded by all
that diseased tonsils have an injurious
effect on the vital system, such as the
cardo-vascular and the gastro-intestinal,
biliary apparatus, and in fact, on the
body economy at large. It is, therefore,
reasonable to hold that disease of the gin-
give brings about toxic absorption per-
haps in proportion to the area of tissue
involved. That the gingivae harbor enor-
mos colonies of micro-organisms has in-
disputably been established by laboratory
findings; and that, while normal healthy
gums in a clean mouth are practically im-
pervious to bacterial invasion, in the un-
clean mouth, inflamed gums are open gate-
ways for infection. This suggests the ob-
ervation that we cannot keep a clean
house without keeping a clean vestibule.

Doctor Wayne, of Philadelphia, says:
"Someone has warned us in the using of
Chrome acid, to be careful of sloughing;
this leads me to believe that he uses it
full strength. I warn the profession at
large against using chrome acid full
strength, as it is violently caustic and leads
to complete destruction of the tissues. A
ten per cent solution is not caustic unless applied repeatedly at the same sitting. The first application gives relief from the pain in a few hours; in 24 hours marvelous improvement is noted. In three or four days the tissues are almost normal but the treatment should be continued every other day for about two weeks."

A case is considered to be cured when negative smears are obtained and only when there has been complete subsidence of all clinical symptoms and no sign of recurrence for a period of two weeks after treatment has been discontinued.

There is a striking dissimilarity in the clinical symptoms of individual cases, and the use of the microscope is recommended in attempting to establish the diagnosis.

Three distinct clinical types of the disease have come under observation, viz: the typical case with all the cardinal symptoms; the sub-acute case with an occasional active lesion and slight fetor; and the pre-treated or chronic case which can be determined only by diligent search and microscopic examination. Each type differs in its response to treatment, the typical, acute cases responding most readily from a clinical standpoint, while the chronic, pre-treated cases are slow to react to treatment.

SOME CONCLUSIONS

The intravenous use of arsphenamine has little or no effect on disease in the mouth.

This infection may become very mild and chronic after incomplete treatment, rendering the patient immune to its noticeable harmful effects, but making him a carrier of the disease.

In every case of Vincent's Infection of the mouth or throat the mouth should be thoroughly treated for at least two weeks by a dentist well versed in oral prophylaxis.

The practice of manufacturers recommending their products as being "good for" Vincent's Infection just because it is a mild antiseptic is ridiculous.

One of the most important etiologic factors is low resistance. Vincent's Infection is often found in individuals whose general resistance has been lowered by operation, disease or exposure to cold, or in those who are existing on improper and insufficient foods. The organisms also find lodgment more quickly in tissue that has been injured or weakened by a pre-existing pyorrhoea pocket on buccal surfaces of upper or lower molars suffering from traumatic occlusion, and in areas not easily accessible to the tooth brush, for example, the flap behind the third molar.

It is commonly thought of as a disease of youth; both contagious and infectious, and occurring more frequently in the male than in the female. More cases are present for treatment in the fall and winter than other seasons of the year.

The usual modes of transmission would be kissing, the exchange of lighted cigarettes and pipes, the use of unclean kitchen utensils, soda fountain cups and spoons; in fact, anything that will transmit saliva will carry Vincent's Infection.

Vincent's Infection has become a common disease, and is on the increase. Many other infectious diseases have been controlled and practically stamped out. If we do not instruct the public as to the precautionary measures which are useful in preventing the disease, the fault for its continuance will be ours.

It is very important for every physician and dentist to know that Vincent's organisms are not found in mouths from which all the teeth have been extracted. Apparently, the organisms can exist only in the crevices about the teeth, and, as a rule, one does not often see Vincent's Infection when the teeth are clean and smooth, when only the enamel is exposed, when the gums have not receded, and when pyorrhoea is absent.

It is my opinion that it would be a very good plan for every dentist to have Sodium Perborate in his office and to familiarize himself with its proper application. I am confident that the treatment would be a good routine oral cleanser preliminary to any dental operation, including the cleansing of the teeth.

It seems strange that after the tremendous experience with Trench Mouth Infection in France, the dissemination of knowledge for its eradication has been so slow in this country.

There are those in both the medical and dental professions who believe, and so state, that Syphilis and Vincent's Infection go hand in hand and form a very vicious circle. Also, that there is a chronic form of Vincent's Infection that is very hard to eradicate by purely local treatment.
April, 1928

The Health Bulletin

Finally would that I were, for the once, Steentor, the Trojan herald, whose fabled voice was that of fifty men, I would bruit abroad this precaution:

Do not extract or do mouth surgery till certain that Vincent’s Infection has been controlled.

Also, this precaution:
Use rubber gloves or finger cots in treating this infection.

PELLAGRA AND THE ULTRA-VIOLET RAYS

An Interesting Personal Communication About Pellagra and Sunburn

A few weeks ago the Editor of the Bulletin received a long letter from an old friend, Mr. O. J. Peterson, Editor of the Chatham Record, about his personal experience covering several years with exposure to sunlight and possible susceptibility to pellagra. The communication is personal, and was not intended for publication as it is; but the observations of Mr. Peterson are so very interesting to us, and therefore we know will interest hundreds of our readers, we have obtained his permission to publish the most of his communication.

The literature of the world has always been enriched when men of genius and great intellectual capacity have put in writing their own personal experiences. Mr. Peterson, who has long been an editor or teacher, is a thoroughly well educated man and a student of particularly penetrating powers of analysis. He has the rare talent of writing interestingly on any subject he undertakes, no matter how prosaic such subject might be. Mr. Peterson not being a physician nor a medical writer, his communication should not be considered in the light of an authoritative technical discussion. His idea that sunlight is frequently mistaken for pellagra, is we think erroneous. The reader may also gain the impression from reading his article that exposure to sunshine may be dangerous. Nothing could be further from the truth. For centuries the most intelligent people in the world have recognized the value of sunlight as a preventative of many disease conditions. Since the morning of the world uncounted millions of people have been directly exposed every day to the sun’s rays without harm. However, at the present time commercial interests the country over are exploiting the gullible, and extracting thousands of dollars from the people through the sale of worthless “lamps” for “artificial sunlight” and so on. The greater part of such apparatus is not only worthless, but much of it in inexperienced hands is down right harmful. Commercial interests which jump into such business do not hesitate to make impossible and misleading claims in their advertising. There is a growing mass of accurate information concerning the value of direct natural sunlight scientifically applied, as well as the use of certain kinds of artificial substitutes in the treatment of disease. A great deal is yet to be discovered and learned about the subject. Until we possess more accurate knowledge about it all it would be well for us to maintain a conservative attitude. All of us know that there are individuals in every community who suffer readily upon undue exposure to sunlight. Such susceptibility may be due to any one or a combination of causes, some of them may be nutritional, others racial, still others due to habits of a lifetime and so on. Altogether the subject should interest everybody and Editor Peterson brings out a number of interesting points.

Pellagra is not a reportable disease in North Carolina, and therefore we have no way of knowing how many people there are in the State who have the disease in more or less unrecognized form, to say nothing of the many hundreds of people that must have the disease and whose physicians know it. In any event, pellagra is a problem of major importance in the realm of public health, economics, and sociology in the State of North Carolina today. There have already been reported to the State Board of Health seven hundred and twelve deaths which occurred in
the State in 1927 from this disease. Therefore we feel it our express duty to present every possible phase of the problem before the intelligent public of North Carolina repeatedly until the disease shall have been entirely eliminated from the State.

Following is Mr. Peterson's letter, which we hope all our readers, both lay and physician, will carefully read:

"Six months ago I was convinced that I had pellagra. Now I am sure I didn't, unless pellagra is something which the medical fraternity has not suspected. In either case, the information that I have is important. It has been stated, over and over, that the number of pellagra cases in the State has multiplied the past few years.

"It has been remarked by authorities on pellagra that the disease in its earlier stages is often taken for sunburn. But let's reverse the statement and say that the effects of the sun are mistaken by physicians as pellagra, but I am not speaking of the ordinary blistering sunburn, but of the deep-seated effects which are discussed in an article in the current issue of the Scientific American, and probably in various medical journals, relating the results and conclusions of painstaking experiments of the effects of the violet rays upon the tissues of the deeper skin. That article, with the developments of the last few days, has enabled me to reach definitely the conclusions that I am giving you.

"I am almost as hard to blister by the sun as an alligator; never wore a pair of gloves in the hottest sun when working in the field or garden. In 1913, thinking residence in the pinewoods of Louisiana might be helpful to my wife, I gave up my position in Louisiana College and accepted the principalship of a consolidated school right in the heart of the long-strawed pine belt of Southwest Louisiana, on about the parallel of Houston, Texas. We moved in midsummer and I undertook to prepare a fall garden. The garden spot was overgrown with Bermuda grass and required much digging and grass pulling, subjecting my hands to the full blast of the southern sun. That fall, or the next spring, I have forgotten which, an itching, stinging area developed on the back of one of my hands. It had an underlying heat that reminded of the feel of footitch, but would not develop the same degree of heat as footitch when rubbed. For fourteen years, the affection would come and go. I would be surprised each time when it returned without warning, always in the spring. I thought that I had got a touch of poison oak, which recurred each spring, though I had never been affected, before that time, by any poisonous plant. Finally, it occurred to me that the spot did not appear on the same hand each year, which was quite a puzzle. All these years I had cultivated a garden, doing the work chiefly with a hoe.

"Last summer, I was reclaiming part of the garden spot from Johnson grass. The festery, itching, burning place appeared on both hands, more definitely upon the highest part of the hands as one works with a hoe. About the ninth of July, I decided to reclaim from the Johnson grass enough land for two rows of late roasting ears. The rows ran directly west. I went out in the broiling sun at one o'clock and started. I soon saw that I had undertaken a very difficult task, my desire being not only to prepare the land for the corn, but to add it definitely to my reclaimed area. However, with that unreasonable persistency that develops in me when I am working against obstacles, I stuck to the job, and it was dark when the corn was planted.

"For more than six hours I had worked with the glare of the sun upon my hands. I was digging and stooping and pulling out the grass. This exposed the back of my neck to the sun, and I had pulled off my collar and had not put a thing around my neck. When I would raise the hoe, my sleeves would slip up my arms and expose the forearms to the sun where the slit in the sleeves occur.

"But all these thoughts came after the development. The itching, festery, burning areas spread over the entire back of my hands, my neck showed the same eruption, though more nearly allied to the effects of a touch of barbers' itch. I hadn't noticed that the forearms were also rough.

"I began to suspect pellagra. In fact, I told my wife jokingly at times during the past 12 years that I guessed I had pellagra. But it ceased to be a joke, and, happening to meet the family physician, I held out my hands to him and asked what was the matter. He gave a look, slipped up my sleeves and lo there was the same thing upon my forearms. He looked at the back of my neck and there it was. He pronounced it pellagra. I told him about the work in the sun, and that I thought I had got a touch of the barbers' itch on
the back of my neck, but he returned with
the statement that many mistook pellagra
at first for sunburn.
"I read Doctor Wood's masterly article
in the BULLETIN on the subject of Pellagra,
and was especially struck with the state-
ment that it occurred on the same parts
of each side of the body. That would
account for my confusion as to the recur-
ing poison oak coming on one hand one
year and on the other another season.
The two hands and the two forearms
seemed to prove Doctor Wood's statement.
My wife began to diet me, giving me milk
three times a day. However, there had
never been a year in which we had had a
greater variety of vegetables, and as Mrs.
Petersen had two of an engineering crew
boarding with her, one of them practically
a vegetarian and the other a meat-eater,
the diet in every particular, except milk—
there had been plenty of butter, though
I hadn't been eating much of it—was
never greater in variety.
"It was hard to see how diet could be
the cause of pellagra in my case. How-
ever, my wife gave me milk at each meal
and insisted upon my drinking it, and
otherwise conforming to the diet prescribed
by Doctor Wood and others. But while
the affection in other years had as unex-
pectedly disappeared in the fall as it had
come in the spring, the thing held on into
the winter. I was not particularly uneasy,
as there were none of the other symp-
toms, and the fact that I could do the
work I had done indicated that I was not
an invalid by any means. Moreover if it
had taken 14 years to reach that stage, I
concluded that it would be a long while
killing me. But finally the affection dis-
appeared and I was gaining flesh on my
milk diet. I had stood at 126 pounds for
about 20 years. I weighed one day in the
winter and weighed 131. I weighed day
before yesterday and weighed 134.
"Yesterday afternoon I worked in the
garden for several hours. I woke last
night with the top of one of my hands
burning in the same old way, and found
a few fester's upon it. It was my left
hand and as I worked from east to west
was the one that was most exposed to
the spring sun.
"It will be remembered that the last
two summers have been very dry, with an
unusual amount of sun. Also, I can give
only parts of the days in the latter part of
the week to work in the garden. After

setting out the paper on Wednesday or
Thursday, I would take the afternoon for
garden work, coming to the office the next
morning and clearing up the business, and
working again Friday afternoon. Thus I
was exposed to the sun only often enough
for it to have possibly a more serious effect
than if I had been working regularly in
the field. But I recall that my father's
hands were rough upon the back. He
never blistered, but plowing as he did day
after day without gloves, with his hands
open to the sun on the plow handles, the
back of the hands had the same rough
appearance that mine had, though I never
heard him complain of the burning.

Women used to work in the fields, but
they wore sunbonnets and gloves. Now
women affect a tan and submit themselves
to the burning sun of beach, etc. Men
stay in the shade more than previously,
yet on occasion bare themselves as never
before to the sun. The fellows who blister,
have sense enough to take better care of
themselves. It is we who never blister
that submit ourselves to the sun to that
extent that the violet rays work the havoces
described in the article recounting the re-
results of exposure to the violet rays. I have
concluded that I must wear gloves if I
work in the garden this year. It seems,
from yesterday's experience, and the ex-
perience of the recurring areas of affection

This is "Ed" and some of his fine old
Chatham county boxwood which has not
yet been carted off to the estate of some
New York millionaire.
on my hands for a dozen years after the exposure in Louisiana, that when the deeper skin has once been affected that it takes less exposure to cause a recurrence of the same conditions. And I am quite sure that, despite my gain in flesh and a general health that has not caused me the loss of a whole day in years from illness, I would be in a terrible condition if I should subject myself this summer to the sun as I did last year. The use of gloves will have further effects upon my conclusions. If I wear them and do not have a return of the affection, it will be more evident that my conclusions are correct. On the contrary, if it returns, that will be a different matter.

"Of course, an anaemic condition of the victim of either the ultra-violet rays or of pellagra as generally conceived would be a favorable factor in the affection. Also a proper diet should be as effective in the one case as in the other in helping the system to overcome the results of the disturbance of the skin.

"Consider these things, the nature of the summers the past two years, the changed habits of folk, and conclude whether it is not likely that hundreds of cases of so-called pellagra are due to the effects of the violet rays upon the deeper skin. Pellagra means a sick skin, and in that sense is a proper appellation for my trouble, and is it not possible that the discovery of the effects of the violet rays may identify the effects of the sun with pellagra? There is no telling what effect a continued exposure would have when it is once started, and it is not unreasonable to suppose that the severe disturbance in the tissue of the deeper skin might as readily bring about the other symptoms of the disease as would the effects of the mysterious cause of pellagra for which the search has so long been sought.

"But don't print all this. Use the information if you wish to do so, however. The letter has run to much greater length than I expected. But it is an important matter. The peace of mind of thousands possibly depend upon the identification of their trouble with the effects of the sun rather than with the mysterious pellagra which so horribly kills. And that is true if there is a real pellagra, apart from the affectations caused by exposure to the sun."

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**BLOOD PRESSURE, HARDENING OF THE ARTERIES, AND APOPLEXY**

**BY**

**F. R. TAYLOR, M.D.**

Blood pressure is almost as frequent a topic of conversation in these days as the weather, yet it is poorly understood by most people. We can get some light on it by considering the ordinary garden hose in its relation to water pressure. With the nozzle wide open, and the water turned on only part way, the pressure in the hose is very low. We can increase the pressure in two ways—turn on more water, so as to get more power from the city pumping station, or turn the nozzle so as to narrow its calibre. If we wish to get the highest pressure possible, we do both of these things.

In the circulation of the blood, these same two factors are of importance. The heart is the pumping station, and the force and frequency of its beats directly affect the blood pressure. Equally important, however, is the calibre of the blood vessels. Arteries contain involuntary muscle in their walls, and this is usually in a state of partial contraction which we call muscle tone. If the tone relaxes, the calibre of the vessel is increased, and it will contain more blood. If the tone is excessive, the calibre is lessened, and the pressure rises. The abdominal arteries are very large and numerous, and when their tone relaxes, they can hold all the blood in the body. Sometimes they do dilate in this way suddenly. Then, if the person is standing or sitting up, the blood obeys the law of gravitation and drops down from the head into the abdomen, the brain feels the lack of blood, and we have the condition known as fainting. The person then falls, or has to lie down quickly, and as soon as the head is
low, blood returns to it, and the attack is over.

Normally, the arteries are elastic, especially in youth. As we get older, they slowly or quickly lose this elasticity. If the process is rapid, we have premature old age, for "a man is as old as his arteries." Along with the loss of elasticity comes a thickening and hardening of the vessel walls, and they become more or less brittle, and break easily. The thickening also make the calibre of the vessels smaller, and this tends to raise the blood pressure. We now have a condition where an abnormally high pressure is combined with weak vessel walls. What is liable to happen? Clearly, the pressure may rupture an artery, with resultant hemorrhage. This actually happens quite often. Sometimes a small vessel ruptures in the nose. In such a case, the blood escapes harmlessly, and the nose acts as a safety valve. If, however, the hemorrhage occurs in the brain, death or paralysis is the usual result. This is one form of apoplexy. Sometimes the arteries do not rupture, but their lining becomes roughened and favors the formation of clots that close them up and cut off the blood from the part the artery supplies. This too, may occur in the brain, and when it does, we have a second type of apoplexy. A third type is where a part of a clot or other substance breaks off from the wall of an artery or from a diseased heart valve and is carried by the blood until it gets into an artery in the brain that it cannot pass through, and lodges there, causing obstruction to the blood supply.

High blood pressure does not always cause apoplexy. Often it causes the heart to give way under the strain. It may cause no symptoms at all for many years. We cannot completely control either high blood pressure or hardening of the arteries. If we could, we would have solved one of the greatest problems of old age. We can often, however, do much to check rapid development of these conditions, by eliminating certain factors liable to cause it. Absorption of poisons from chronically infected areas, such as diseased teeth, tonsils, gall bladders, prostates, etc., must be stopped. Overexertion, and great mental, emotional, or physical stress must be avoided. The condition of the kidneys must be watched, for one type of kidney disease is closely associated with high blood pressure.

We know less about low blood pressure than we do about high, but we know it is not uncommon. Slight degrees of it need little attention in themselves, but severe grades, while rarely fatal, cause a good deal of discomfort and sometimes disability. Many causes underlie low blood pressure, some known, some unknown. It seems to follow influenza at times. Tuberculosis is often associated with it. In many cases we cannot find the cause. A low pressure without symptoms and without discoverable cause probably does not require any treatment, but in any case of abnormal blood pressure, high or low, a careful examination is essential, in order that the cause, if detectable, may be found and corrected before serious damage has been done. To wait until symptoms appear, such as dizziness, ringing in the ears, faintness, weakness, momentary blindness, etc., is often to let slip the main chance for checking the trouble, therefore, THE ONLY SAFE AND SENSIBLE PLAN IS FOR YOU AND EVERY MEMBER OF YOUR FAMILY TO HAVE A CAREFUL ANNUAL HEALTH EXAMINATION BY YOUR DOCTOR, in order to find these troubles early and check their ravages as far as possible. This does not mean to worry over possibilities—that is not only senseless, but helps to cause the very troubles we are trying to combat. There is no more reason to worry about a health examination than about an examination of your automobile by a good mechanic—it is just observing the principle that "a stitch in time saves nine," and this, when looked at in the proper light, prevents worry, by preventing any real cause for it.

MEAT DIET AND SCURVY

Mr. Stefansson, after eating meat for twenty days at Bellevue Hospital and taking three hours of exercise a day, is in good physical condition. The experiment is to run for a month. The impression that it was undertaken to prove that, without fruits and vegetables, the meat diet will not cause scurvy could hardly have come from anything Stefansson has said. As an experienced explorer he knows that
scurvy would not result from eating good butcher's meat for a month.

The precise etiology of scurvy has not been established. Sir Almroth Wright believes that the disease is due to an acid intoxication. Torup, a Norwegian authority, has maintained that it is the effect of direct poisoning from damaged or badly preserved meat. Doctors Jackson and Harley declare that when such meat is eaten for a considerable time scurvy occurs, even when lime juice and vegetables are taken with it. The salted meat consumed on long voyages by sailors was often horrible stuff.

No physician who has studied the subject would expect Stefanson to contract scurvy on a month's diet of fresh meat. But the experiment may be well worth while if his state of health from day to day is chemically observed.—*New York Times*.

LABORATORY ANIMALS

Few people realize how much the rapid progress of experimental medicine depends upon a liberal supply of laboratory animals. The St. Louis Department of Health calls attention to the need for a more intensive study of serum therapy in scarlet fever, measles, and tuberculosis. Even the proper execution of the routine duties with which the city health department is charged may be seriously hampered by difficulty in obtaining animals. "The problem of obtaining a satisfactory supply of laboratory animals for outline work," it is stated, "occasionally becomes so acute as to cause no little embarrassment to the laboratory... Occasionally we are obliged to curtail animal inoculation procedures for the reason that the cost would be prohibitive, considering our budget." The Department suggests that steps be taken to ascertain the possibility of the city raising its own laboratory animals at one of its various institutions. This situation points to the need for better co-ordination of the numerous agencies working towards public welfare. If tax-supported institutions, having resources for raising animals, could cooperate with official agencies employing physiological tests, some of the difficulties of safe-guarding public health would be removed.—*American Association for Medical Progress*.

WILLIAM HARVEY

Three hundred years ago there was published in Frankfort *De motu cordis* by William Harvey, which marked a radical departure from the traditions of science and philosophy as well as from the traditions of medicine. Fabricius and Vesalius had already established the doctrine that the way to find out about the human body is to study the human body, instead of studying Galen and Hippocrates. It remained for Harvey to establish the doctrine that the way to study the workings of an organism is to study the organism in action and not to speculate on how a living body ought to act. During these three hundred years since Harvey demonstrated the circulation of the blood, largely on the basis of vivisection, the idea has become commonplace that even biological processes must be studied with some attention to measurement or quantitative relations. "With Harvey's work, physiology became a dynamic science."

It should be pointed out of course that Harvey was one of the great Elizabethans, a contemporary of Gilbert and Francis Bacon in England, as well as of Giordano Bruno, Galileo, Kepler, Descartes, and van Helmont on the continent. It is impossible to attribute to any of the great spirits of that period the sole credit for the intellectual ferment which has since grown to such enormous proportions. But certainly Harvey's memory deserves attention from all who appreciate the fundamental changes in our concepts of the organism, especially as related to the progress of medicine.—*American Association for Medical Progress*.

"The ability of a man to work depends in a large measure upon his health. Whatever reduces his earning capacity in any way reduces the assets of the community."

"He spent his health to gain his wealth
And then by might and main
He turned around and spent his wealth
To get his health again."
VITAMINS IN MILK PRODUCTS

BY

R. ADAMS DUTCHER

Head of the Department of Agricultural and Biological Chemistry, Pennsylvania State College

Never before in the history of mankind has there been such a lively public interest in the "whys" and "hows" of feeding. We find the medical profession laying ever greater stress on the importance of diet in relation to health and disease. Health surveys in our public schools have shock ed us into the realization that a rather large proportion of our school children are underweight for their age. Physicians and public welfare workers have been forced to conclude that much of the ill health that exists in every community can be traced to malnutrition and that this condition has been due, very largely, to a lack of interest in, and knowledge of, some of the very fundamental facts that we all ought to have regarding intelligent feeding.

As a result of the discoveries made by biological chemists during the past decade, we are beginning to understand more about nutritive values possessed by our natural and manufactured foodstuffs.

Manufacturers have set up their own research laboratories and have co-operated with colleges and universities in an earnest desire to get at the facts and, if possible, to improve the palatability and nutritive quality of their products.

THE VALUE OF MILK IN THE DIET

Students of nutrition were not long in making the discovery that some foods were better than others, and that children and animals cannot thrive on monotonous, onecelled diets. As a result we are taught that our diet should be varied from day to day in order that we obtain the necessary quantity and quality of proteins, mineral salts, and vitamins. A further study brought out the fact that milk and milk products, more nearly than any other single type of food, provide the essential things that many diets lack. As a result the production of milk and products made from milk has been greatly stimulated.

VITAMINS IN MILK

It has long since been established that milk contains all of the known vitamins which are so essential to health and well-being. Some milks, however, were richer than others. Studies in our laboratory soon told us why. We found that the vitamin content of milk was directly related to the amount of vitamins in the cow's diet. If the cow was fed a diet rich in vitamins—her milk was proportionately rich; if her feed consisted of dry vitamin-poor foods—her milk was less rich in these necessary food factors. As a result of these and other studies, dairy men are feeding much more intelligently than in former years.

DRIED MILK

Certain of the vitamins are partially or totally destroyed by heat, depending on the conditions of treatment. If a milk is rich in vitamins, due to proper feeding, considerable destruction may occur and the milk still remain a valuable source of vitamin supply. If a vitamin-poor milk is carelessly treated, the vitamin supply may be too low in the marketed product. Our studies showed that milk may be pasteurized at 145 degrees for 30 minutes in the absence of air and that little if any, vitamin destruction occurred. This was not true when air was admitted. Manufacturers of dried milk or milk powder have studied these problems, with the result that by careful control, much of the original vitamin content of the milk can be preserved.

The importance of this cannot be overemphasized, for in addition to its widespread household uses in soups, vegetables, and desserts, and in baby formulas, it furnishes a source of milk for travelers, infants in the tropics, and for people in all places where safe fresh milk is not available. According to Dr. Milton J. Rosenau: "Milk is the most difficult of all our standard articles of diet to obtain and handle in a safe and satisfactory manner. It requires scrupulous care from pasture to pail, and from pail to palate. It is the most difficult of all our foods to gather, handle, transport, and deliver in a fresh,
clean, safe and satisfactory manner. Furthermore, milk decomposes more quickly than other food. It spoils even more quickly than fresh fruit and berries."

I should not leave the impression, however, that milk is always a rich source of vitamins. Even fresh milk from a good source often may be supplemented to advantage with orange juice, cod liver oil and similar vitamin-rich foods, a practice recommended by many physicians.

**Evaporated Milk**

Another way of preserving milk for use, where fresh milk is not easily obtained, is to evaporate it or condense it. This process removes a portion of the water leaving the original proteins, fats, sugars and salts in a more concentrated form. Our studies of the vitamin content of evaporated milks have led us to believe that the growth-promoting component of vitamin B is injured very little by the evaporation and sterilization process. Vitamin A is partially destroyed, but a fair proportion of this vitamin is preserved if the milk was rich to start with. Vitamin D, although not present to any considerable extent, even in fresh milk, does not seem to be greatly harmed, although some destruction seems to take place. Vitamin C is not present in fresh milk in large quantities, and since this vitamin is the most susceptible to heat of the entire group, it is safe to say that milk products of all kinds should be supplemented with fruits and fruit juices.

**A Nearly Perfect Food**

While no food can be considered a perfect food, milk in all of its various marketable forms comes about as near to this ideal as we can hope to find it in a single food product. We should not necessarily condemn any food because it is deficient in one ingredient or another. White bread, polished rice and similar foods are often deficient in several ingredients, including vitamins. We should realize that such foods have a definite and important place in the diet, and that they should be supplemented with milk, fruits, and vegetables which furnish the lacking essentials.

**Milk Breads**

Much of the white bread made today in commercial bakeries contains added milk solids in the form of powdered or evaporated milk, which contribute greatly to the nutritive value of white bread. Such breads are known to the trade as "milk breads."

Realizing that "variety is the spice of life" at the table as well as elsewhere, we should make it a rule to supplement our diet with vegetables, fruit, and milk. While it is pleasant and desirable to obtain these fresh from the garden, orchard, and dairy—whenever it is possible to do so, it is by no means necessary that this be done—for modern methods of canning and preserving are bringing many of these to our table today in appetizing and nutritious forms. Canned tomatoes, for example, are being used with success as a substitute for orange juice, and the research work of Dr. Walter H. Eddy and Dr. E. H. Kohn has shown that other fruits and vegetables may be canned by modern methods and retain much of the original vitamin potency.—American Housewife's Bureau.

**Sauerkraut and Liver**

"Not long ago a man from California went into a New York hotel for breakfast and before he looked at the menu ordered a glass of sauerkraut juice. The waiter paused politely.

"'No sauerkraut juice?' asked the Westerner. 'Why, it's the greatest thing to begin the day on out where I come from—better than any kind of fruit. If New York doesn't know it, all I can say is that it's behind the times.'

"Further explanation brought out the assurance that not only is sauerkraut juice very popular as the prelude to any meal in the West, but also that raw sauerkraut itself is in great demand—providing, it seems, some valuable ingredient for the body unobtainable in any other food.

"The recent pronouncement by reliable medical authorities that calves' liver, raw or powdered, helps to make red corpuscles in the blood has started a new diet vogue, also. Butchers report that there never were so many orders for beef and calf liver, and the price, consequently, has soared. Restaurant proprietors say that as a popular dish on the bill of fare liver and bacon is creeping close to corned beef and cabbage."

From reading the foregoing quoted from an article in the New York Times oldtimers will recall that along about 40 years
ago the two items of diet mentioned were "having their day" in North Carolina. It was a sorry, improvident shiftless family indeed back there that did not "put up" one or more barrels of sauerkraut in the summer for winter use. "Kraut" they called it. And what a dish! Served up with regular old time Norton Yams baked in a wood burning stove, or by many poor people simply roasted in hot ashes on the hearth, and eaten with fresh hog "liver pudding" along in January, it simply constituted a "log rolling" diet. And when helped along with plenty of fresh buttermilk and griddle cake bread made from clean water-ground meal, what fool could have wished for anything better to eat. That is one "First" North Carolina had no business ever losing to California. And now California is trying to pass it along to New York City where they have everything! Worst of all is that most of the children of these hardy old citizens of the "hard times" nineties, if able to eat anything at all divide their days wages at the chain groceries between the Chicago packers, the Boston bean people, Wisconsin dairymen, California orange growers, Oregon apple people, and American baker's products. If anything is left occasionally a few cents is spent for some Florida lettuce to eat with a salad dressing made in Baltimore.

In exchange for our primacy as sauerkraut eaters we have pellagra and other nutritional diseases killing several hundred of our people each year. About one-fourth of our school children rank below most approved standards for physical well being. And yet the people who are trying to make a living producing foodstuffs, complain of the lack of markets at living prices for their products. On the other hand the average consumer has a strenuous time trying to get the absolute necessities of life. It is probable that the domestic economy and marketing experts will find a satisfactory solution to this problem about the same time we health officers settle on a satisfactory method for the control of all the communicable diseases of childhood.

In the meantime let all good North Carolinians make and eat more Sauerkraut.

HEALTH

In the middle ages the alchemist delved deep as his intellect and education would permit in his search for the philosopher's stone which would transmute other metals into the gold of his desire.

Men joined with Ponce de Leon in the search for the mythical fountain of eternal youth, one sip of which would put long curly hair on a bald spot, vim and vinegar into the step of the most decrepit, make life eternal and death as old-fashioned as a bustle.

They all failed, according to history. But is history right? Out of these searches for mythical things came the science of research, the foundation of medicine, chemistry, navigation and a dozen other things which have made life today longer and happier.

Length of life has been increased year by year. The man of a hundred will soon be as common as the man of fifty is today. Life expectancy has been raised from twenty-two years to its present fifty-seven.

Research is now working on sickness of all kinds. Life insurance companies, health foundations and medical science in general have compiled statistics showing that sickness causes annually, in lost wages and necessary care, two and a quarter billion dollars.

Much of this loss is preventable. Much of it could be avoided. Common colds, carelessness in dress and ventilation, improper diet, too much or too little exercise all help to swell this loss.

Physicians today practice preventive medicine rather than curative. In every community are physicians who can talk interestingly on these subjects. Talks before Kiwanis clubs, before employees, and before schools are always well received. A Kiwanis club can do no better work than to promulgate such talks wherever possible.

People are always interested in themselves. A talk of personal interest is sure of a thinking audience.—The Kiwanis Magazine.

"Well, how did you spend your two week's vacation, old man?"

"I spent a day and a half going to a place where I would have nothing to do, nine days doing nothing, two days with a headache from doing nothing, and a day and a half getting back to where I could do something."—Farmers Federation News.
CURES THAT DON'T CURE

I'LL TRY ANYTHING ONCE

THE TUBERCULAR

PRODUCER OF QUACK REMEDIES

WOULD LIKE TO BUY

QUACK MEDICINE

THERE GOES HIS LAST DOLLAR
This is Doris Hope, when three weeks of age an unknown "porchbasket" waif at Dunn; eight months later a prize winner in a Harnett County Baby Contest. Such a transformation is an epic in baby care. When left nameless on the Dunn porch the baby was emaciated and suffering from lack of care. Through the efforts of the county welfare officer the little one was adopted by a fine generous Lillington couple. As a result of their loving care, aided by a Lillington physician and a Raleigh Baby specialist, the infant has developed into a truly "wonderful baby."

"Trasmuch as ye have done it unto one of the least of these my breth-
ren, ye have done it unto me."
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils  Fly Placards  Sanitary Privies
Cancer  German Measles  Scarlet Fever
Catarrh Whooping Cough
Care of the Baby  Hookworm Disease  Smallpox
Constitution  Infantile Paralysis  Teeth
Colds  Influenza  Tuberculosis
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Diphtheria  Pellegra  Typhoid Placards
Don't Spit Placards  Public Health Laws  Venereal Diseases
Eyes  Preschool Care  Water Supplies
Flies  

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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AN ACUTE SOCIAL PROBLEM

The heading over this article may be misleading to some. We might have selected another heading for the article which would have more clearly indicated what we wish to say but as we see it the problems here presented and the plain facts revealed indicate nothing short of a most acute social problem. These plain facts herein set forth speak much louder than a volume of learned essays on the general subject of maternal and infant mortality, which is the subject we here propose to talk about. The reports received by the Vital Statistics Department of the North Carolina State Board of Health for the year 1926 show an increase in both maternal and infant mortality in this State occurring that year, compared to the year 1925. If this is not a social problem, then what is it?

In the year 1925, 6,591 babies died in North Carolina before reaching the end of their first year of life. In the year 1926, 6,792 babies died before the end of their first year. To present it another way, slightly more than 82 of each 1,000 babies born in the State that year died before they were one year of age. As might be expected, the maternal mortality kept pace accordingly. A comparison of the number of deaths for the two years shows that in 1925, 690 mothers died as a direct result of childbirth, or so reported to the Vital Statistics Department. In 1926, 718 mothers were recorded as sacrificing their lives to the perpetuation of the race. These rates may not be the highest in the United States. We do not have the comparative figures for 1926 at hand, but we do know that they come dangerously near constituting a most disgraceful first so far as the United States is concerned. We are safe in saying that we occupy a position in both instances of at least being among the first ten states of this Union having such a disgraceful record. It is undoubtedly a social problem, a medical problem, an economic problem, and it seems to us nearly every other sort of a problem.

Sometime last May the New York Times reported a speech made at Yale University by Sir George Newman, a great English health authority, in which Doctor Newman asserted that the problems of "safeguarding of its mothers" was one of the "greatest physiological problems before any nation." Doctor Newman was speaking under the title of the "Responsibilities of Citizenship." Although an Englishman and speaking to an American audience, he certainly succeeded in telling us some unpleasant truths about ourselves. In the first place, he compared the United States rate with that of England. He had figures from both places to indicate that the total maternal mortality rate in England was only 3.8 per 1,000 births compared to 7.5 in America. If he had been comparing England to North Carolina, he would have had to move the 7.5 up for 1926 to 8.7, making it considerably more than twice as high as England.

To further quote from Sir George Newman, he said that "we have here the origin of one of the most acute social problems of our times, one of the factors where the most intimate and complex social disharmonies are actually being created year after year. We seek by effort and enormous expenditure of wealth to diminish the effects, but we are doing little to remove its cause."

Every writer, every physician, every editor, every sociologist, and nearly everybody else would probably have his or her own reasons to assign for the prevailing high mortality in this class of our population. The fact is that there are numerous reasons which play a part, so far as North
Carolina is concerned, in keeping our State so near the top of the list, or what more properly might be said the bottom of the list. We will not try to enumerate even the most important from our standpoint, let alone anything like all of the causes we think contribute to this state of affairs; but we do venture to herein set forth a few of the causes:

First. There are thousands of poorer people in North Carolina than our ballyhoo artists would ever think of conceding. Therefore one cause is economical. Proper food and hygienic regime during the gestation period, freedom from care and worry, attention of a good physician, and all the other concomitants of a safe and happy condition for any woman in the pre-natal state is out of the question when there must be a struggle for the bare necessities of existence. Second. An unequal distribution of physicians wherein for the past ten years 90 per cent of the licentiates in medicine in North Carolina have promptly proceeded to locate in towns of five thousand and up, to the great detriment of the people living in the rural sections. Third. The scarcity of physicians in the rural sections naturally makes it harder to get the service of a good doctor and practically makes it impossible for the very poorer classes of the people everywhere, and therefore the necessary pre-natal care of each and every expectant mother of the State is seriously neglected. Fourth. The ever present menace of venereal diseases.

To the reader of this article we would like to suggest that you go on and finish this list to suit yourself; but unless there is a concerted and systematic effort extending from one extreme of the State to the other and ramifying into every solitary backwoods community in the State it will do very little good to be agitating about the subject. Every good citizen of this State should consider it his “bounden” duty to acknowledge himself a committee of one to undertake in this case to help see that every expectant mother has the necessary attention in order to wipe out this scandal on the State’s record.

We cannot close this article any better than to again quote from the Yale lecture of the English author who closed his lecture with the statement that “After examining the official return of the last five years I cannot escape the conclusion that the maternal mortality rate in America is a grave problem calling for the most serious attention of the American people.”

This civilization is not going to depend so much upon what we do when we work as what we do in our time off—Herbert Hoover.

Identical twins six years old. Thelma and Selma. Only the mother can tell them apart, sometimes she makes a mistake. They are beautiful as you can see in the picture. Red hair with complexion that goes with it.

Their little dresses were of soft cotton crepe of a color harmonizing with hair and eyes. You can tell they are not camera shy, although they live in the country far away from the camera man.

They came to the school house to be examined by two State Board of Health nurses in response to a request sent out “When schools are not in session.”

Owing to the lack of space and the rush of editing this issue, several births and deaths will be postponed until next week.

—Announcement in an Iowa paper.
DIARRHOEA IN INFANTS

BY

ALDERT S. ROOT, M.D., Raleigh, N. C.

An entirely satisfactory classification of diarrheal diseases in infants cannot be made—but for practical purposes we may consider them under the following heads: (1) those due to indigestion, (2) those due to infection outside of the intestinal tract, (3) those occurring as a result of infection within the intestinal tract by the dysentery bacillus.

INDIGESTION

This is provoked by too much food as a whole, or to the milk being too concentrated for the baby, or to feeding the child with an indigestible article of diet.

A breast fed baby rarely ever has indigestion. He may spit up some of his milk, may have frequent or loose stools, which contain mucus and curds—but he cannot be considered to have indigestion, if in spite of these symptoms he is gaining regularly and at the rate of about an ounce daily up to six months, and about four ounces weekly after six months of age.

Such infants should be given no drugs but should be nursed every four hours instead of every two or three hours as they frequently are. Not many infants have indigestion from too strong a milk mixture, if they are normal—in fact a majority of those artificially fed are on entirely too diluted a mixture. A good many infants a month or two of age can take and digest whole cow's milk. Incidentally there is no way of knowing when additional milk should be added to the breast fed baby's diet or of knowing when the milk mixture of a baby on the bottle should be increased, except by weighing him at definite intervals of every week or two.

To correct the indigestion we must first stop all feedings if the baby is vomiting. Frequently an ounce of cold strained orange juice every hour or two is retained at first, and then a few ounces of boiled skimmed milk every four hours is given. Colotel and castor oil are drastic purgatives and should not be used. A teaspoonful or two of milk of magnesia is preferable. He is gradually gotten back on an appropriate diet within the next few days.

INFECTIONS

(Outside of the intestinal tract)

Until the past few years the role played by these infections as a cause of diarrhoea was not appreciated. Now we know that by far the largest number of such cases are caused by them. For instance—tonsillitis, otitis media (ear infection), mastoiditis, kidney infections, bronchitis, pneumonia or even boils may all be accompanied by loose, frequent stools, and when the primary disease from which the patient is suffering clears up—the diarrhoea clears up at the same time. Consequently if an infant, or young child has diarrhoea, infection somewhere in the body should be sought for, and treatment concentrated here rather than upon the secondary diarrhoea.

DYSENTERY

Dysentery is due to infection of the intestinal tract by the dysentery bacillus. It is commonly called "colitis" and as it occurs more commonly in the spring and summer—"summer diarrhoea." This disease, unlike the others mentioned, is due to a specific organism. Such organisms gain entrance by being swallowed—either in contaminated milk, water, or food. The most common source is unclean milk.

In countries where there has been for years the habit or the law to boil the milk, dysentery is practically unknown. In the cities we are seeing less and less of it each year—partly because the milk supply is under the direct supervision of the respective Health Departments, and partly because the milk is boiled or pasteurized more frequently than in the country. In the rural sections the incidence of dysentery is still very high, partly as mentioned above because the milk is not boiled, ice is not available, and partly because the houses are not screened. Flies help spread dysentery. They often carry the germs on their feet and transfer them to the babies' food, the nipple or the bottle, or the pacifier. This is one of the reasons pacifiers should not be used.

There are a number of dry milks on the
market which can be conveniently and safely used where good clean cow's milk and ice for refrigerating the bottles are not available. Each feeding can be prepared at the time desired.

Dysentery is the most serious disease in infancy, and more babies die as a result of it than from any other cause. About one out of every eight or ten severe cases is fatal.

Diarrheal diseases in North Carolina alone were responsible for 1462 deaths in the year 1925, 1426 deaths in 1926 and 1132 deaths in 1927 of infants under two years of age. Dysentery claimed most of these. The mortality rate is about the same in all of the eastern states. It is not nearly so common west of the Mississippi River. Few there are who are not familiar with the clinical picture of a case of dysentary—the sudden onset with prostration and fever, and often with convulsions, stupor, frequent bowel movements—at first containing undigested food and after a few hours, blood and mucus, and accompanied by violent straining—the rapid loss of weight and the drying out of the tissues of the body, from so rapid loss of fluid. Persistent vomiting is often a symptom, and the outlook in these cases is particularly bad.

Dysentery is a disease not of days, but frequently several weeks or even months elapse before there is a complete restoration to health. Unfortunately no specific serum or vaccine has been found which in any degree influences the course of the disease.

The decrease in the death rate must be accomplished in two ways—first by lessening the number of cases which occur, and secondly by keeping well infants in such a good state of health and nutrition that if they contract dysentery, they will survive the exacting ordeal.

As has been indicated—boiling the milk or using dry milk, where good clean cow's milk and ice cannot be obtained, screening against flies, and instituting common sense sanitary measures will result in fewer cases of dysentery. A fact not generally appreciated is that the disease is an infectious one and may easily be transmitted from one child to another in the same family, unless precautions are taken. The ill child should be kept apart from the others—the soiled napkins should be kept in a covered vessel which contains an antiseptic solution, as lysol—of the strength of one teaspoonful to the quart—the bottles, nipples, glasses, spoons, etc., kept entirely separate for the use of the patient.

The death rate is very low in those babies who have been kept in a proper state of nutrition by proper feeding through infancy. This cannot be too strongly emphasized. Generally speaking, the death rate is in direct ratio to the underweight of the child. This, however, does not apply to the apparently fat children who are fed on high sugar foods, as condensed milk. The fat of these babies is not a healthy fat, and the mortality rate is very high in these children. The treatment of dysentery concerns itself less with the administration of medicines than almost any disease a physician is called in to treat. Calomel and castor oil merely add to the depleting process of the disease. The keynote of treatment lies in the word "water." From the outset, it should be given, as much as the patient will take, every half hour or more throughout the day and night. The volume of fluid lost through the diarrhea is enormous and must be replaced. If the baby is vomiting persistently, or if through the diarrhea is becoming dry, as evidenced by the skin-fluid must be given artificially—salt solution under the skin, in the peritoneal cavity, or in the veins.

The one drug which is almost indispensable in the treatment is opium. It should be given in every case of any severity early in its course—either paregoric every four hours, if the bowel movements are as frequent as every two hours, or better, of small doses of morphine hypodermically every four to six hours, if a nurse is employed, or the baby is in a hospital. The effect must be watched by the physician.

In case of girl babies who are subject to kidney disease called pyelitis it is a good plan to give soda which tends to prevent its occurrence. A convenient way of giving this is to mix two and one-half level teaspoonfuls soda in half glass of water—and give two or three teaspoonfuls of this every three or four hours.

It is very important to feed these babies appropriately from the beginning.

It is a prevalent custom to put these patients through a starvation period. If this is done, it should not last more than twelve or at most twenty-four hours. The
waste of the body tissues is so rapid and so great that they must have nourishment. It is better in most cases to feed them from the onset—at first an ounce or two every four hours, and this increased to six ounces at a feeding, if the baby is over six months of age, within the next few days.

The acid milks best suit this purpose. When acid is added to milk it makes it more digestible—and hence the milk can be given concentrated—that is, without being diluted. Lactic acid is the one most extensively used. A quart of milk is boiled and then gotten cold, and to this is added one and one-half or two teaspoonfuls of lactic acid (U.S.P.) the latter being added drop by drop while the milk is being stirred. It is then kept cold. There is no objection to adding two or three tablespoonfuls of Karo Syrup (Blue Label) to the quart of lactic milk. This makes it more palatable and increases its nutritive value.

Five teaspoonfuls of strained lemon juice to the quart of milk may be used instead of lactic acid.

The surest way of knowing how a baby is progressing is not by the number of stools he is having, but by how he is taking his milk. If vomiting complicates the case, a tablespoonful of cold strained orange juice every two hours, and two or three teaspoonfuls of soda water in an ounce of water every two hours, these alternating, will often enable one to make a start. Water is forced as soon and as fast as the baby can tolerate it.

Giving fluids artificially must often be resorted to here.

Blood transfusions in severe cases or for those cases which are at a standstill is frequently life saving—and in many cases truly spectacular.

The day will probably come when a specific treatment will be found for dysentery and it will cease to be a menace to the lives of infants as it now is—but it will be many years before it will have been eradicated. Until then, the surest means of decreasing the incidence of, and lowering the death rate from dysentery is by the preventive measures mentioned, and by keeping the baby in the best state of nutrition and health.

IN THE LAND OF VIRGINIA DARE

This is the “Tranquil House” at Manteo, a quaint old fashioned hostelry. The horizontal lines, white paint, green trees and grass, and the rocking chairs tend to tranquility. In the side yard under the beautiful trees the old fashioned game of croquet is played from morning until night. Any game more strenuous would be out of keeping with the place.
KEEPRO THE BABY WELL DURING THE FIRST YEAR

BY

J. BUREN SIDBURY, M.D., Wilmington, N. C.

Keep the Baby at the Breast

It is our ambition to keep the baby at the mother's breast six months at least, and eight or ten months if the baby is doing well. Because the baby has "colic," and curds in the stools, which may or may not be green, is no reason for saying that the breast milk disagrees with the baby and that the baby should be weaned. The breast fed baby, who cries at night, is not a "colicky baby," but is a hungry baby. We often get the history of a baby, who sleeps perfectly all day and seems well satisfied and contented till after the 6 p. m. feeding, when he cries until the 10 p. m. feeding. This baby is hungry and will not cry if he is given a bottle after the 6 p. m. feeding.

When the mother carries on the household duties during the day as well as nurses her baby, she becomes tired as the end of the day approaches and her milk supply naturally is less. For this reason the baby cries after the 6 p. m. feeding and if he is given a bottle he usually goes off to sleep and is not heard from till the next feeding. The baby should not be awakened for the 2 a. m. feeding. Uninterrupted rest from 10 p. m. till 6 a. m. is necessary for the mother to nurse her infant successfully. A mother can not be expected to give sufficient milk, as to quality and quantity, if she is repeatedly kept up at night with her crying infant. If it becomes necessary for the baby to be up after the 10 p. m. feeding, some other member of the household, or a nurse employed for the purpose, should take care of the baby. If this routine is followed, it will take only a few nights before the baby becomes adjusted and the mother will have sufficient nourishment to supply the needs of the baby.

Successful breast feeding requires regular and complete emptying of the breast. The baby should be nursed regularly by the clock. The hours of nursing should not be closer than three hours during the day and four hours at night, with the 2 a. m. feeding omitted as soon as possible. If the baby is well nourished, I think it better for both mother and baby to start on a four hour schedule from birth. This gives the mother more rest and usually gives the baby more food. When the four hour schedule is used, the baby may nurse both breasts 10 or 12 minutes, which is sufficient time for the complete emptying of the breasts.

If the baby is not satisfied and not gaining the required six to eight ounces each week when nursing one breast alone, then both breasts should be nursed each time. Once daily, for a few days, the baby should be weighed before and after nursing (with the clothes on), to determine the amount of milk gotten from the breast. The difference in the two weighings will give the amount of milk the baby gets at that nursing. The average infant at one month should get at least three ounces at each nursing. A good general rule to follow is that a baby should get at each nursing two ounces more than he is months old until that amount is eight ounces, at which time he should begin to get some other food than milk—cereal, vegetable soup.

Every baby should be taught to take water and milk from the bottle from birth. It is much easier to teach a baby to take a bottle during the first week or month than it is at six months. The advantages in this are many. The baby learns to take more water, and in the event the mother is taken sick and the baby has to be weaned abruptly, there is no trouble getting the baby to take his feedings from the bottle. If the baby does not get enough from the breast, one or two bottles daily should be given after nursing and not in the place of nursing. There is no surer way of drying up a breast than by substituting bottle feedings for a breast feeding. Occasionally it becomes necessary and, at times, is desirable to have the mother leave the baby for one whole nursing period. At such a time, it is all right to give the baby a bottle. This gives the mother a much needed rest and does the baby no harm.
May, 1928

THE HEALTH BULLETIN

It will seldom be necessary to wean the baby before the sixth month, if the breast milk is continued along with the bottle. It must be borne in mind, however, that additional food—bottle or cereal—must be given at the same time the breast feeding is given and not in the place of the breast feeding. The giving of one bottle feeding daily after nursing is not a bad plan.

Cracked nipples are often a cause for weaning the baby, especially this apt to occur with the first baby. Care of the nipples after the seventh month should be routinely followed. Inverted nipples, which may be the cause of weaning in some cases, may be corrected before the birth of the baby. Cracked and fissured nipples are often made worse by allowing the baby to stay at the breast too long—20 to 30 minutes. It has been shown that a normal baby gets 95 per cent of all the milk in the breast in the first eight or ten minutes. The remainder of the 20 or 30 minutes the baby chews the nipple and makes the condition worse. With cracked or fissured nipples, the baby should only be allowed to nurse one breast at a feeding and for not more than five or ten minutes at a time. This will give eight hours of rest for each nipple and the baby is given sufficient time to empty the breast and no time to chew or masserate the nipple.

While breast feeding is the ideal method of infant feeding, it can be kept up too long for the good of the baby. In those cases, where there is a sufficient milk supply, it should not be continued alone for more than six months. When an infant is fed on a milk diet exclusively for ten to twelve months he may develop anemia and become undernourished, pale and flabby. The normal baby at birth has sufficient iron stored in the liver to meet his ordinary needs for six months. After that time, if there is no iron taken in the food (and milk contains practically no iron), the store house of iron in the liver is called upon to supply the needs of the body. The iron reserve is lowered and anemia is produced. This emphasizes the importance of fresh vegetables after six months.

There is a type of baby that may be weaned to advantage to the baby as well as to the entire household. This baby belongs to the highly neurotic mother, who makes an honest effort but who has repeatedly failed to nurse her baby successfully. Frequently it has been found that it is better to put this baby on whole lactic acid and Karo syrup, sufficient to meet his needs, and have a happy, healthy, contented baby gaining eight ounces each week and sleeping all night, in contrast to a crying, nervous baby gaining only two or three ounces each week and keeping the whole household stirred up all the time.

**MILK TO BE USED WHEN THE BABY IS WEANED: COW'S MILK PROPERLY MODIFIED**

Milk from a herd, which has been tuberculin tested every six months and from a dairy, which has a low bacteria count, is desired. The milk should not show a bacteria count at any time of more than 10,000 to 50,000 bacteria per cc. Low bacteria count is a good index to the degree of cleanliness in handling.

The old idea that the baby should be fed from one cow, which has been stall fed, is erroneous. Such a cow is more than likely to give milk high in butter fat but low in vitamin. The cow should be allowed to get green food each day, if possible.

Cow's milk should be boiled during the summer months for all infants under two years. Milk is an excellent culture media for bacteria and boiling the milk in the home before it is given the baby is the only sure way of not implanting infected milk in the infant's stomach.

A safer method still is the addition of Lactic Acid to the boiled milk during the summer months. Lactic Acid inhibits the growth of bacteria in milk. This is an additional safeguard to those in the country, who have no ice. Infants, who take lactic acid milk, are less likely to have infectious diarrhea or "colitis."

The preparation of lactic milk is very simple and can be made with the greatest ease by the inexperienced. For example:

Whole milk, 32 ounces; Karo Syrup, four to five tablespoonfuls; Boil three minutes and thoroughly cool, then add 90 to 100 drops of Lactic Acid, drop by drop, stirring after each drop. Give three to six ounces every four hours.

It should be remembered that the milk makes better, has finer curds, and is a more homogenous mixture if it is cold when the lactic acid is added.

In larger towns, where Lactic Acid Milk is prepared and sold by the dairy, the problem is much simpler. This prepara-
May blossoms in Guilford County.

Preparation of lactic acid milk is more palatable and is taken much more readily by older children. Infants usually take one as well as the other. Their therapeutic value is the same.

The question has been asked how long is it safe to keep a baby on lactic acid milk. The answer to this is, that they may be kept on it indefinitely to advantage in the vast majority of cases.

Other Kinds of Milk

When fresh cow's milk can not be obtained, evaporated or dried milk may be had. Evaporated milk is cows' milk, which has been reduced to half its original volume by heat. No sugar has been added. The difference between Eagle Brand Condensed Milk and Evaporated Milk is the 56 per cent cane sugar, which is added to "Eagle Brand." Dryco Dry Milk is partially skimmed milk. One level tablespoonful to one ounce of water restores it to its original strength. Kilm Whole Milk is whole cow's milk evaporated to dryness. One tablespoonful to two ounces of water makes whole milk. There are a number of dried lactic acid and protein milks on the market. These are of greatest value in traveling or where fresh cow's milk cannot be had.

Orange juice should be started at two or three months of age and one to three teaspoonsfuls in as much boiled water given once daily, one hour before the second feeding. Premature babies should have orange juice and cod liver oil earlier than the normal baby. They are prone to develop rickets and should have cod liver oil from birth and throughout the first year. They are usually pale, because they do not get their full share of iron in their livers. The major part of the iron that is stored in the liver is stored during the last two months of intra-uterine life.

Cereals and green vegetables should be added to the diet at sixth and seventh months respectively. It should be remembered that the iron, pigment and vegetable salts are held in solution and it is the vegetable water that contains these elements in greatest concentration after cooking and the vegetable water should always be used and never thrown away, as is so often done. Beef juice and eggs may be given between ten and twelve months to advantage to the average infant.

If the baby is properly fed and the necessary precautions are taken to prevent exposure to infections the baby will probably stay well during his first year as well as other years that are to follow.

Mothers should always remember the "common cold" is probably the greatest enemy to the well cared for baby and is so often disregarded. They should always be avoided.

**PREPARATION OF LACTIC ACID MILK MIXTURES FOR INFANT FEEDING**

By McKIM MARRIOTT, M.D., St. Louis, Mo.

Whole undiluted lactic acid milk, enriched with commercial corn syrup, was originally introduced as a satisfactory food mixture for anathreptic infants. A further experience, however, has led to the conclusion that such formulas are excellently adapted to the routine feeding of normal infants. The type of feeding described does not lead to gastro-intestinal disturbances, even in young and undernourished
infants. The composition of the formula does not have to be changed during a large part of the first year, the infant merely being offered increasingly larger amounts of the same food mixture as he becomes older. The caloric value is high (from 25 to 30 calories an ounce), and because of this fact a smaller number of feedings during the day is necessary, and malnutrition due to underfeeding does not occur.

An experience of eight years with the feeding of several hundred infants in welfare clinics in practice and in the hospital has served to convince us that there are no disadvantages to the routine and prolonged use of lactic acid milk so far as the infants are concerned. For a number of years it has been our practice to use a single formula for more than 95 per cent of infants under one year of age treated in the hospital and clinic, the formula consisting of undiluted whole lactic acid milk to which has been added one-tenth of its volume of Karo Corn Syrup. The babies have been given about all their appetites demanded at four hour intervals. No more than five feedings a day have usually been necessary after one month of age and often not more than four feedings after the age of three months. After the infants have begun to take appreciable amounts of additional carbohydrate in the form of cereal, during the second half year, the amount of sugar added to the milk has been correspondingly reduced and by the age of one year or 14 months entirely omitted. Otherwise no changes in the formula have ordinarily been made or found necessary for either sick or well infants.

The chief drawback to the routine use of lactic acid milk has been the difficulty in preparation. In many parts of the country it is impossible to obtain from dairies a satisfactory whole lactic acid milk. The home preparation with bacterial cultures presents difficulties and, although satisfactory in the hands of an intelligent mother, it is hardly a method suitable for general use.

The preparation of lactic acid milk by the addition of lactic acid to sterilized milk has been suggested by Greenthal and by Marrick and Davidson. It has been shown that milk so prepared is about as suitable for infant feeding as the bacterially soured milk. The amount of lactic acid originally recommended was one drachm (4 cc.) of U. S. P. lactic acid to a pint (500 cc.) of milk. This is a maximum amount and is somewhat excessive for use with most milk as delivered, which already contains some lactic acid. It has been found preferable, as a routine, to use only three-fourths of the amount of lactic acid originally advised; that is, to use three-fourths drachm (3 cc.) to the pint (500 cc.), or 1½ drachms (6 cc.) to the quart (1,000 cc.). According to this method it is necessary first to sterilize the milk by boiling and then cool thoroughly before adding the acid, which latter must be introduced gradually in order to prevent the formation of large curds. The best results are obtained when the milk is boiled for a considerable time, but this results in concentration and the formation of a troublesome scum.

Evaporated Milk

The use of unsweetened evaporated milk instead of ordinary cow's milk for the preparation of lactic acid milk formulas possesses a number of advantages. Such milk has already been completely sterilized and heated sufficiently so as to insure the formation of very fine curds when the acid is added. It has a slightly lower buffer value than ordinary cow's milk because of the conversion of a part of the calcium and phosphate into the form of insoluble calcium phosphate. The fat present has been homogenized, so that it does not separate out as butter fat after the addition of acid, even though shaken or stirred. Furthermore, evaporated milk is easily obtainable and is cheap.

Evaporated milk is merely whole cow's milk from which about one-half of the water has been separated. It is homogenized and sterilized. Evaporated milk is not to be confused with sweetened condensed milk, which is not sterile and which is preserved by the addition of a large amount of cane sugar. Sweetened condensed milk is entirely unsuitable for the preparation of infant feeding formulas.

In using evaporated milk for the preparation of lactic acid milk formulas the usual dilution is one: one, as evaporated milk is approximately doubly concentrated. To the half diluted milk ten per cent by volume of Karo Syrup is added and then ten drops of lactic acid U. S. P. to each ounce of evaporated milk used in the mixture, or five drops to each ounce of the final mixture.

The proportions of milk, water and
sugar may, of course, be varied if desired, but the proportion between lactic acid and milk should be maintained.

A preferable method of preparing the formulas and one that we have generally used consists in the mixing of evaporated milk with an equal volume of an acid-sugar mixture. The formula which we have used almost as a routine is prepared as follows:

**ACID-SUGAR SOLUTION**

Karo Corn Syrup (brown) 90 cc., 3 oz. (6 tablespoonsfuls).

Lactic acid, U. S. P. 5 cc., one teaspoonful.

Water, to 250 cc., one pint.

The syrup is mixed with some water, the lactic acid added, and the whole made up to the final volume. The mixture should, if possible, be kept in a cool place, but on account of its high acid content it keeps perfectly for one or two days even at ordinary temperatures.

In making up the feedings, equal parts of unsweetened evaporated milk and the acid-sugar solution are mixed. This is done by pouring the acid solution into the milk, which is then mixed by stirring or shaking. An entire day's feeding may be prepared at one time, or, as is often more convenient when traveling, a small single can of evaporated milk may be opened fresh for each feeding, the feeding bottle being half filled with the milk and the acid-sugar solution then poured in. The bottle then needs merely to be shaken, warmed to body temperature, and is ready for feeding.

The formula given is the usual one for babies during the first six or eight months. It can, of course, be varied in individual instances. The amount of sugar is decreased after cereal is taken. The formula as prepared is equivalent to whole lactic acid milk with approximately ten per cent added sugar. The fuel value is 30 calories per ounce.

This simple method of preparing lactic acid milk feedings was originally devised for use while traveling. It worked out so well that we have for some times past recommended it as a routine feeding throughout the year and have found it to be of especial value during the warm weather and in the hands of ignorant people. There is practically no chance of making a mistake, and if reasonable cleanliness is used there is no danger of producing diarrhea.

Such formulas are far safer than those prepared from a questionable milk supply. All evidence goes to show that the fat-soluble vitamins A and D and the B vitamin are not injured by the processes employed in the preparation of evaporated milk. The antiscorbutic vitamin C, however, is destroyed and it is essential that the formulas given be supplemented with orange juice or tomato juice daily. It is also advisable as in the case of any artificially fed infant, especially during the winter months, to administer as much as one teaspoonful of cod liver oil each day in addition to the milk mixtures—*Journal American Medical Association*.

**WELL BABY CLINICS**

The practice of holding "Well Baby Clinics" is becoming more and more common in different sections of the State. Many people undertaking these clinics do not definitely understand just what is proposed and how much is to be accomplished through the undertaking. Others expect things to be done at such clinics that are impossible to do. These clinics can only be conducted when arranged by an experienced public health nurse working under the direction of a competent health officer or a group of qualified physicians. In any event, to be conducted as they should be, the actual work in the clinic should be in charge of a practicing pediatrician. As commonly carried out in successful clinics attached to regular health departments, or what in some states is known as "Health Centers," the scope of the work may be outlined as something like the following:

The babies invited to the clinic are supposedly well babies; that is, infants whose mothers do not suspect any defect or any disease which, at the time, might be handicapping the growth and development of the baby. Such babies, when admitted to the clinic, are weighed and measured. Their weights and measurements are then compared in the presence of the mother, with so-called standards for that age group of babies. Formulas for properly feeding the babies are worked out and the mother
is thus provided with a chart, which she can follow with satisfaction and safety so long as the baby remains a well baby. Instruction in personal hygiene necessary for the baby's comfort and safety is also given to the mother. The clinician looks particularly for defects, such as defects of teeth or of suspected hearing, or visual defects. He also looks for trouble in the throat, examines for the presence of adenoids, and advises as to the condition of the tonsils, the abdomen, lungs, genito-urinary tract. Joints and muscles are also examined, and any advice necessary to correct any defect found is given to the mothers, with full instructions as to what kind of specialists, dentists, or so on necessary to consult for correction.

In some of the more successful of these clinics the habit has become established, which certainly should be advised in all of them in the future, of immunizing every baby coming to the clinic, unless it has already been done, against diphtheria. This requires three trips, but the second and third doses of toxin-antitoxin, when only a one-day clinic is held, can be administered by the family physician later on.

MONOTONY BEST FOR CHILDREN

Some time ago Bertrand Russell, the celebrated English philosopher, came over to the United States to tell us a few things in his opinion good for us to know—at so many dollars per lecture. In an interview given out in New York soon after his arrival, Mr. Russell propounded one idea that observing people feadily acknowledge as an important fact. Mr. Russell advised monotony and placidity especially in the education of all children. He said that the efforts of many parents in trying to provide variety and excitement for the young children was one of the worst things that could be done for the children. He pointed out that children are much happier in engaging in their own quiet routine. He said that this "love of monotony is deep-rooted in every animal and is the basis of man's love of home." He went on to say in his lecture that people believe in homes because they love uniformity, and that a child quickly reacts to any change in the monotony and uniformity of a well ordered daily routine and is easy to impress with fear and anxiety when anything happens to break this orderly round of its existence. Parents and teachers would do well to

Where parents prefer it, or where the managers of the clinic prefer to do so, all three of the immunizing doses of toxin-antitoxin may be referred to the family physician for attention. The chief thing to do is to urge that the immunization be given. The principal reason for advising this to be started in the clinic is, if the first dose is properly given, the parent is much more likely to go on and have the other two doses given at the proper time, after it is started, than if the advice is simply given to go to the family doctor.

Another important thing to do at these clinics is to ascertain whether or not the baby has been successfully vaccinated against smallpox. If such is not the case, and if there are not any contra-indications at the time, smallpox vaccination should be given with the instruction to later on have the family physician immunize against diphtheria after recovery from the reaction to the smallpox vaccination. There are many other things that might be attended to at these clinics, and in many of them are looked after; but the foregoing constitute the essential principles of a "Well Baby Clinic."

Can't tell exactly whether this is bedtime story hour or lunch time. Anyhow these boys are having a good time.
ture from the normal requirements in the training of each child. Small children can play when not interrupted in their own back yards for hours at a time in their sand piles or with their little playhouses. They can repeat this day after day for months and months. They go to each day’s play with just as much zeal as any adult goes to begin his day’s work in the morning. Such habits make for normal standards of health and peace of mind and should be by all means encouraged and protected by parents until the child is well on toward his adolescent years.

THE BABIES’ HOSPITAL, WILMINGTON

We are publishing in this issue a photograph of the new Babies’ Hospital on Wrightsville Sound near Wilmington, which is to be opened on June 1. It will be remembered by some of our readers that five years ago this month we published a photograph of the former Babies’ Hospital near the same place. The old hospital was burned last summer, without the loss of any lives, however. This hospital, since it was first opened in 1920, has treated many sick infants. At the time we published the brief description of it, as aforementioned, several years ago, it was the only hospital that allowed mothers to stay with their babies when sick, board and bed being provided for the mothers along with the sick babies.

After the old hospital was burned last summer, the numerous friends of the institution in Wilmington and elsewhere immediately set about devising plans to build a new and better plant. They have been successful in their efforts, and on the first of June a splendid new fire proof building, costing one hundred thousand dollars, will be completed and opened for work. The old hospital was open only during the summer months. It is the plan of those in authority now to make the new hospital a year-round institution, open all the year for the treatment of sick infants and the training of nurses and mothers in the care of babies. The location at Wrightsville Sound makes it equally as desirable during the winter months as during the summer. There can be no question but that the benefits to be derived from the salt water in a location like that at Wrightsville Sound is especially beneficial to babies and young children suffering from any one of a number of ailments.

The hospital will give a post-graduate course of four months duration to graduate nurses who desire to further their training as pediatric nurses. Provisions will be made and special efforts directed to teach mothers the proper method in the feeding and care of infants, so when their babies improve sufficiently to return to their homes they will be in a position to properly care for their own babies as well as to disseminate such information among their neighbors. This is to be undoubtedly one of the most valuable features of the hospital.

The infant death rate in North Carolina remains disgracefully high. Many of us think that one reason for this rate remaining so high is because of the fact that very little of the information directed toward the amelioration of such conditions ever reaches the homes most needing such assistance. This new hospital in directing its efforts to this particular objective will undoubtedly be a great boon to the whole southern section of North Carolina. As the salt atmosphere is especially desirable in the treatment of many babies, which doctors in the interior frequently prescribe, this hospital should be a drawing card for children throughout a large section of the South.

This new hospital has been constructed by contributions, large and small, and it is to be open to all physicians who desire to have the advantages of the location at the seashore and the special care such a hospital can give to the sick infants among their patients. Only graduate nurses having had special pediatric training are employed at the Babies’ Hospital. The hospital is run by a board of directors and is thus modern in management as well as construction. It is thoroughly equipped with all the appliances necessary for modern treatment to be specially applied. Among some of the desirable features may be mentioned the several large screened porches which overlook the Atlantic Ocean, and two open roofs to be utilized in the giving of direct sun baths both in summer and winter.

The medical profession of Wilmington as well as the people of that section, and the whole State of North Carolina are to be congratulated on having such a thoroughly modern institution coming into this important and necessary field.
MORE ABOUT MEASLES

We are fully aware that very probably by the time these lines appear in print the extensive measles epidemic which has been widespread throughout North Carolina for the past several months will be over and gone, for this season at least. At the same time, unless some method of control more practical and more easily available than anything yet proposed is provided, measles will still be with us for quite a while in more or less epidemic form. It is one of the most contagious diseases in the world, and as there are some eighty odd thousand children being born in North Carolina every year, and as the children are the special fodder for measles, the disease will keep right on constituting a major public health problem.

We had thought that the old cruel, ignorant, and barbarous method of caring for measles patients was ancient history until the recent epidemic, during which the newspapers have been the victims of numerous communications from so-called authorities whom the newspapers naturally trusted, until new life and vigor has been accorded to many of these old ignorant notions. When the writer suffered a bad attack of measles more than thirty years ago the dark room period was in vogue, and, what was almost as bad, no water was allowed a measles patient. However, both of the foregoing ideas have been utterly exploded for at least fifteen or twenty years in modern scientific circles. So we have been astounded to see the numerous items in the public prints urging parents whose children had measles to keep them in a dark room and so on ad nauseam.

In this connection, the New York Times in its issue of March 18, 1928, published a report of radio talk by Dr. B. Franklin Royer, medical director of the National Society for the Prevention of Blindness, on the subject of "Eye Care in Measles." Doctor Royer says so well what we would like to say and his words carry the unquestioned force of a national authority, we take pleasure in publishing below, headlines and all, the Times' report of Doctor Royer's speech. Every person in North Carolina who is likely to be responsible for a case of measles during the next year or so would do well to file this issue of the Bulletin and haul it out and read Doctor Royer's article very carefully just as soon as the physician announces the diagnosis of measles.

"OLD NOTIONS ABOUT MEASLES DISPelled"

"FRESH AIR AND GOOD LIGHT ARE IMPERATIVE IN TREATING PATIENTS, SAYS Dr. B. FRANKLIN ROYER"

"Parents were warned against the old-fashioned notion that children with inflamed eyes in the early stages of measles must be kept in dark rooms by Dr. B. Franklin Royer, Medical Director of the National Society for the Prevention of Blindness, in a talk on 'Eye Care in Measles' over WJZ recently. Instead, he said, there is probably no other disease of childhood in which fresh air and good light are so imperative in treatment. Doctor Royer's talk was one of a series being given in a city-wide campaign to reduce the frequency of complications in measles.

"Among the earliest warnings of an oncoming attack of measles," said Doctor Royer, "is the reddened condition of the eyes. Tears may be noted as excessive and ready to overflow the lashes during the stage of sneezing and coughing that precedes the skin eruption of measles. These early inflammatory warnings in the eye require no treatment. They are usually accompanied by some fear of light and this fear of light has prompted vicious care responsible not only for loss of eyesight, but also for the loss of many children's lives.

"Probably more harm has been done by the old-fashioned mother's notion and insistence that the child must be kept in a dark room because the eyes are inflamed than by any other single nursing fault. Just because the tears are flowing and the eyes are a little congested, there is no reason whatever for putting the child in a dark room. Fresh air is needed to avert and counteract the infection which kills those babies and children who are lost from pneumonia; and good light is needed not only to kill the germs of pneumonia and other germs but also to avoid the serious eye conditions developing as a later complication in measles."

"Explaning how to deal with irritation in the eye during measles, Doctor Royer declared that as long as the back is toward
the window the light will not be greatly distressing.

"The beds of most children are not placed with due regard to eye comfort," he said. "As nearly as possible, the head of the child's bed should be toward the window. This will give light in the child's face without the direct rays striking the eye in such a way that they cause pain from the light. With the bed well placed, the light rays strike the eyes at pretty nearly a right angle, instead of coming straight in. The eyebrows and the bony arch above the eye socket all give protection. It is a very simple matter to place a dark screen near the head of the bed or a simple eyeshade on the forehead, if the child is not annoyed by it. Artificial lighting equipment should be so arranged that during the few hours it may be required no possible glare may annoy the child."

"Parents who would protect their children from crossed eyes and other defects of vision that result from straining the eye muscles were advised not to permit them to read too much during convalescence from measles or other diseases of childhood.

"Measles is not a cause of crossed eyes," said Doctor Royer, "but too early use of the eyes at close range for too long a period of time when the eye muscles are relatively as weak and flabby as are all other muscles of the sick child has been responsible for muscle faults of thousands of children's eyes. The fault often first becomes noticeable during convalescence.

"Because the child is in bed, a little restless, and anxious to be amused, we often overcharge his weak eye muscles by giving him books and toys and the various things which may permit him to use his eyes at close range longer hours every day than if he were well and out at play. No wise mother will permit this eye abuse if she stops to think about it."

EDUCATION OF MOTHERS AND INSTRUCTIONS IN "FATHER-CRAFT" WOULD REDUCE MATERNAL MORTALITY RATE

There is a progressive increase in the number of states in which maternal deaths constitute the leading cause of death of young adult women, as we pass from the first to the later five-year periods between the ages of fifteen and forty-four, Dr. Samuel J. Crumbine told the Conference members. As General Executive of the American Child Health Association, he has made a study of maternal mortality, and finds that twenty-five years have seen practically no reduction in the total death rate from the preventable causes associated with childbirth.

The maternal mortality of certain foreign countries points to the goal that it is possible for the United States to obtain. Japan, Norway, Denmark, The Netherlands, Italy—these countries lose at the rate of only about one-half as many women from maternal causes as does the United States. England and Wales and Germany also have lower maternal mortality rates than does the Birth Registration Area of the United States.

Puerperal septicemia and puerperal albuminuria and convulsions together cause more than half of the deaths at childbirth, Doctor Crumbine pointed out, and each one of these conditions is largely preventable, as already concretely demonstrated in special clinics. If an attempt were made to apply existing knowledge of the means of preventing these two causes of death alone, maternal deaths could probably be

A fine game for small boys on a hot day.
A program of prevention demands examination of the expectant mother monthly by a physician, with assistance in observation by a trained public health nurse. Such a program requires well-trained obstetricians, and individual teaching not only of prospective mothers but of prospective fathers as well. Dr. James Fenton, Medical Office of Health, Kensington, England, has begun to solve this problem, Doctor Crumrine reported, giving instructions in "fathercraft," addressing groups of fathers on the importance of skilled antenatal advice.—Good Health.

INFANTILE PARALYSIS UNUSUALLY PREVALENT IN SOME STATES THE PAST SUMMER

It will be remembered that in 1925, owing to the death of two children in Western North Carolina, one from Alabama and the other from Ohio, both of whom were attached to one of the big summer camps in that section, considerable apprehension was caused on such appearance of the disease in this State. The health officers of several distant cities and the chamber of commerce in one or two towns all became unduly excited. As a matter of fact there was less of the disease that year and fewer deaths than had occurred in some previous years according to the average normal expectation based on several years statistics.

This past summer the disease has been unusually prevalent, and outbreaks of serious import have occurred in such widely separated areas as the state of New Mexico, the city of Boston, and the state of Ohio. In Ohio, up to October 1, the State Board of Health reports that there had been 750 cases with 69 deaths. The Ohio State Board of Health announces that the outbreak was characteristically manifesting its irregular behavior.

Most of the epidemic, if it might be called an epidemic, in Ohio was occurring on the West Virginia border. This became so serious at one time that the West Virginia State Health Department quarantined against the state of Ohio for several weeks, the quarantine requiring that no child under 15 years of age from the state of Ohio be allowed to go into West Virginia. On September 25 the West Virginia State Board of Health announced that this quarantine had been raised.

The Ohio State Board of Health maintained two special investigators in the field studying the disease from every possible angle, and it is to be hoped that that board will be able to report some valuable data concerning the disease. It has also endeavored to see that an orthopedic nurse sees each case as near the early treatment stage as possible, in order to make sure that the family of such patient has the opportunity to learn how the patient may be properly cared for. An special effort has been made to see that all children, even in the mildest cases suffering from the symptoms of the disease have the attention of a competent physician of the patient's own choosing immediately.

It is perfectly natural for parents to dread the appearance of this disease at any time. Not only is the mortality among children attacked seriously high, but the future effects, often resulting in the permanent crippling of the child, cause it to be one of the diseases more gravely feared than possibly any other by parents everywhere. Modern methods of treatment, including rest and quiet, with the proper orthopaedic instruction about the position of the affected limbs, so as to counteract as far as possible the effects of the resulting paralysis, is preventing many serious complications later on. Whenever and wherever the disease occurs one of the first things to think about is perfect rest for the little patient, rest and quiet during the acute illness and for a long period after.

The Ohio Board of Health has repeatedly called special attention to the fallacy of violently manipulative treatment when the disease appears. As in all other diseases, an outbreak should not mean the signal for excitement extending to the closing of the schools and other radical measures; but reports of any suspicious symptoms should immediately be made by any family to its regular physician. The physician will, of course, make prompt reports to the State Board of Health and institute the proper precaution to try to prevent any further spread of infection.

Very little is known about the disease. This applies particularly to the infectious agent causing it and the methods by which the disease is spread. The Ohio State
Board of Health has noted that in the main traveled highway from Cleveland, Ohio, to Wheeling, West Virginia, that there was a heavier incidence of cases all along that route, which is one of the great traveled highways of Ohio. They noted, however, that no such definite spread occurred along other main highways. One thing seems to be definitely established about the disease and that is that it occurs for the most part in the hot summer months and the early fall. A few weeks of cold weather with rather heavy frost and the spread of the infection seems to subside immediately thereafter.

On account of the danger of the appearance of the disease in epidemic proportions in North Carolina during the coming year we are republishing herewith an article by Dr. W. H. Frost of the United States Public Health Service, under the title of "Recognition of Poliomyelitis." Poliomyelitis is, of course, the technical name for infantile paralysis. This very valuable article by Doctor Frost was published in the September 15th issue of the bulletin of the Ohio State Board of Health. Most of it is rather technical, and of greater interest to physicians, but it is very important for teachers and parents to be informed as fully as is possible for laymen to be on the subject.

**RECOGNITION OF POLIOMYE LIS**

"Knowledge of the pathology and symptomatology of the disease which is known as infantile paralysis, or acute anterior poliomyelitis, has developed in three stages.

The first of these may be dated from 1840, when Jacob Von Heine gave a clear clinical description of the disease, noting the features which distinguish it from other paralytic affections, namely, the sudden onset of paralysis, usually in children, and its flaccid, atrophic character.

Not long thereafter it was demonstrated that the lesion responsible for this paralysis was destruction of motor neurons in the corresponding area of the spinal cord. At this time and for some fifty years thereafter, the disease was observed rather rarely, occurring only sporadically in single cases or very small groups, so that no one observer saw more than a few cases in the acute stage. Quite naturally, therefore, attention was directed almost exclusively to the resultant paralysis rather than to the acute illness which preceded it.

A comfortable suit for the "good old summer time."

The next stage of progress begins about 1890, when the disease had begun to appear here and there in distinct though small epidemics, and we owe to Medin, who studied such epidemics in Stockholm, the first comprehensive account of the rather distinctive symptoms preceding paralysis. In 1905-06, in his study of the hitherto unprecedented epidemic which then prevailed widely over Sweden, Wickman greatly extended previous knowledge of the clinical features and pathology of the disease in its acute stage, and pointed out clearly that in this epidemic, side by side with cases showing extensive and typical paralysis, there occurred numerous cases exhibiting similar and often quite distinctive symptoms of general systemic infection and of meningeal irritation, but recovering without actual paralysis. To Wickman, then, we owe knowledge of the important fact that paralysis is not a necessary or invariable feature of the disease; and to him and his contemporaries we are also indebted for widely extending knowledge of its pathology and epidemiology.

In the extensive epidemics which have occurred since the publication (in 1907) of Wickman's monograph, his observations on the symptomatology and pathology of poliomyelitis in man have been abundantly confirmed by many observers, and highly important contributions to the pathology
of the disease have resulted from studies of experimental poliomyelitis in monkeys.

As the result of all these studies it is now thoroughly well established that poliomyelitis is not necessarily a paralytic disease. It is rather a general systemic infection, due to a virus which has a special tendency to attack the central nervous system. This tendency is, however, more or less effectively checked by the natural defenses of the body, and it is only when these have been overwhelmed that extensive paralysis occurs.

**Pathology**

The primary lesion of the central nervous system is cellular infiltration of the pia-arachnoid, extending around the blood vessels of the cord, medulla and brain. This is followed by infiltration, especially in the gray matter of the cord, with edema, minute extravasations of blood, and more or less of damage to the motor neurons. The spinal ganglia are also involved, and the cerebro-spinal fluid is increased in amount with a moderate increase in cells. Outside of the central nervous system the most constant pathological findings are infiltration of the lymph nodes, especially of the mesentery and intestines, with less constant inflammatory changes in various other organs, and a moderate leukocytosis with an increase in the proportion of polymorphs.

**Symptomatology**

Corresponding to this picture of the pathology of the disease, its symptoms may be grouped broadly as (1) those indicative of a systemic reaction to general infection, and (2) those referable to the specific action of the virus upon the central nervous system. In a general way the symptoms in the earliest stage of the disease belong to the first group, while the more distinctive symptoms of later development belong to the second; but, in fact, the two groups of symptoms are more or less completely merged, and in a brief discussion it is more convenient to describe them in the usual order of their appearance without attempting to group them according to causation.

The onset of poliomyelitis may be sudden or insidious, and not infrequently is in two stages, separated by an interval of several days in which there is a remission of symptoms. Next to fever, which is almost invariably demonstrable, the most common symptoms of onset are those of a gastro-intestinal disturbance; vomiting, sometimes with diarrhea, sometimes with constipation. In some epidemics, however, sore throat or symptoms suggestive of influenza are more prominent at onset. Other usual initial symptoms are general malaise, and, in children old enough to express themselves, headache, which may at times be severe. Following immediately upon or accompanying these are other symptoms which are more distinctive, namely: A state of restlessness and irritability, followed often by an apathetic, drowsy state, with a marked disinclination to move the body or to be moved. Coma, delirium and convulsions are rare. At this time pain, especially when the patient is moved or handled, is quite usual. Especially common and characteristic is a stiffness of the neck and spine, indicated by the position in which the patient takes in bed, by disinclination to bend the spine forward, and by complaint of pain when the spine is flexed by drawing the head forward or by lifting the shoulders and buttocks. The tendon reflexes if tested carefully in the first day or two of illness usually show some distinct abnormally, being either exaggerated or diminished, or, what is still more significant, some being diminished or completely lost, while others are exaggerated. At the same time, even when there is no actual paralysis, the patient may exhibit more or less marked tremor or ataxia on motion, with a general or localized muscular weakness which is striking.

A lumbar puncture made in this stage of the disease will show an increase in cell content, especially of lymphocytes, giving a count of 25 to over 2,000 per c.m.m. and an increase in globulin. The fluid may be opalescent, but is not turbid. The duration of these symptoms varies, but in general it is brief. In cases progressing to paralysis the fever and other acute symptoms usually subside within five to ten days and when paralysis does not occur, recovery is usually prompt though in some instances pain and tenderness of some of the muscles may persist much longer.

In the cases in which paralysis develops, this usually follows in about two or three days from the onset of illness, but the interval is variable. Sometimes it is as much as a week, while in other cases paralysis occurs within the first day of illness, or even, in rare cases, without noticeable symptoms preceding it.

Space does not permit discussion of the
varied distribution and extent of paralysis beyond noting that it is a flaccid motor paralysis, not accompanied by loss of sensation, and that it occurs most frequently in one or more groups of muscles of the extremities; that the legs are more frequently affected than the arms; and that it may affect either one or both sides. More rarely the paralysis affects muscles supplied by cranial nerves, as the facial muscles or the external rectus muscles of the eye. Occasionally, also it may affect the muscles of the palate, in which case the disease may be mistaken at first as diphtheritic paralysis. In fatal cases death is due to paralysis of the muscles of respiration, usually preceded by progressively extensive paralysis of the extremities.

DIAGNOSIS

In cases where paralysis develops the diagnosis seldom offers difficulties, for the sudden onset of flaccid paralysis in the muscles of one or more extremities, without the loss of sensation, and following a brief period of febrile illness, makes a striking and distinctive picture which can hardly be overlooked or mistaken. In the comparatively rare cases where the paralysis is limited to the muscles supplied by the cranial nerves, the diagnosis may readily be missed, but this is not likely to happen if the case has been carefully observed.

Before the development of paralysis, and in cases which recover without paralysis the diagnosis is more difficult, and undoubtedly will often be missed unless the physician has poliomyelitis in mind. In the presence of an epidemic such general symptoms as fever, vomiting, or diarrhoea, irritability and drowsiness developing suddenly in a child are sufficient to arouse suspicion. And if to these are added the more distinctive symptoms as rigidity and tenderness of the spine, with pain on flexion, definite exaggeration or diminution of tendon reflexes, muscular weakness and tremor or ataxia in movements, a diagnosis of poliomyelitis is justified. If doubt exists the diagnosis may usually be established by examination of the cerebro-spinal fluid, withdrawn by lumbar punctures. This is the most certain means of diagnosis in the preparalytic stage. It is, however, a procedure not to be attempted except by one skilled in its technique; and, even when the best of skill and facilities are available, consideration must always be given to the question whether or not the probable benefit to the patient will justify the procedure. The answer to this question will depend largely upon whether or not immune serum is available for specific therapy and upon the reliance which is placed upon its efficacy, a matter on which the evidence is somewhat inconclusive, and opinion not fixed.

In any event, whether or not lumbar puncture is practicable, every effort should be made, in all suspicious cases, to arrive at a diagnosis on the history, symptoms and physical signs, and though such a diagnosis is not always certain, it can be made in a surprisingly large proportion of cases where the examination is conducted with care.

CLASSIFICATION OF CASES

The foregoing description of symptomatology refers to cases which may be classified roughly into three groups, according to ease and certainty of diagnosis, viz:

1. Cases with definite and characteristic paralysis. These have been familiar to the medical profession for many years, and, after the onset of paralysis offer no difficulties of diagnosis.

2. Cases which do not develop paralysis, but do exhibit symptoms clearly indicative of meningeal irritation and usually

This little Franklin County girl was born on Christmas Day, 1927. As you can see she already has the good judgment to enjoy an open fire.
of some minor disturbance of motor centers. These so-called "abortive cases," may be diagnosed quite certainly with lumbar puncture, and frequently to a fair certainty without it.

(3) Cases which exhibit symptoms of general systemic infection similar to the initial symptoms of known cases of poliomyelitis, but without definite indications of involvement of the central nervous system. These come under suspicion as poliomyelitis chiefly or solely because of their association, in time and place, with clearly marked cases of the disease. The writer believes that the frequency and intimacy of this association is sufficient to justify the conviction that cases of poliomyelitis with only these indefinite symptoms actually do occur, and are, in fact, quite common. Considered individually, however, such cases can only be considered as "suspicious."

The relative frequency of occurrence of cases of these three classes is not at all definitely established; and such statistics as are available cannot be considered reliable, for obviously the more readily diagnosed cases will be observed and reported in large proportion than the milder and more obscure illnesses. It has, however, been found in certain epidemics which have been studied with especial care, that the "abortive" and "suspicious" cases have considerably outnumbered those with definite paralysis, and it is quite probable that the latter are, generally, the least numerous class.

SWATTING THE FLY IN ITALY

Some of our readers may think that we are rather free in our observations concerning public health questions in Italy; in other words, that we may have too much reference to Mussolini and his doings over there. We have no apologies to offer for writing of these interesting happenings reported from Italy. In a land which has been the endemic home of pellagra for two hundred years or more, and where, according to Osler, some twenty years ago had fifty national sanatoriums for treating the more than seventy thousand people sick from the disease at one time, and which has succeeded in eradicating pellagra almost entirely under the regime of Mussolini, is a country which certainly should command the respect of students of public health everywhere in the world.

There may be no such thing as a benevolent despot. There probably is not. But from this distance it would seem if there ever was justification for designating a military dictator as a benevolent ruler such an appellation would belong to Mussolini. He seems to be almost as versatile in his interests as Shakespeare was, and, like all other autocrats, whenever he determines on a policy he seems to lose no time in putting it through.

The latest from this interesting country is the fact that Mussolini has recently declared war on the house fly. The Italian correspondent of the New York Times, writing to that paper from Rome some time ago, describing the program some-
what in detail, simply stated Mussolini has ordered everybody to swat the fly. In this official governmental war on the house fly it is stated in a series of compulsory regulations and instructions for “fighting these pests in their various stages of development in the densely inhabited centers” any person, firm, or corporation who is found guilty of failing to comply to his utmost ability with these regulations will automatically become liable to a considerable fine.

Naturally those of us who have been engaged in public health work in North Carolina, for the last twenty years say, have been hammering away in an effort to educate our people concerning the nuisance, if not actual menace, of the house fly pest, have found the process somewhat slow of adoption as compared to Italy’s resort to a fine. Naturally the strength of any law is the machinery provided for its execution, and the biggest part of the motive power in the execution of legal machinery is, of course, the penalty attached. Mussolini seems to have provided for it all. If they have the same success in eradicating the house fly from the whole country of Italy, with a population of forty million people, as they did with the eradication of pellagra, the world for the first time will have the opportunity of ascertaining definitely just what diseases and to how great extent their ravages are due to the presence of house flies in overwhelming numbers. It is an interesting experiment and one that will be watched with a great deal of care.

KNOCK KNEE AND FLAT FOOT

Statistics compiled from the draft during the recent World War have been often quoted, and have thrown much light upon remediable conditions in persons of the draft age in the United States and elsewhere.

This great emergency revealed the large number of men unfit for mental or physical strain who were yet able to plod along doing their daily civilian tasks. The number of countries with a republican form of government has increased since War. Government then, on the whole, is better for the average man since this calamity. If the health of the population of America improves along the lines indicated to be necessary by draft figures, another benefit from the War will be established. However, there is no assurance that this is occurring.

“Among the first million men to be mobilized during the World War, one rachitic deformity, flat foot, was found to be practically as frequent (one hundred and seventy per thousand) as all other diseases and deformities combined (one hundred and eighty per thousand.)”

Recent statistics from colleges and naval recruiting stations indicate a prevalence of flat foot still in the population today. Examination of school children in Oregon showed that less than ten per cent were entirely free from it.

There is a prevalence of rickets among the young and adult population today. Medical photographs of children with rickets usually show flat foot. Hess believes that associated with the boney deformities of rickets there is generally a marked laxity of the ligaments of the knee joint and bones of the foot, which is conductive to flat foot and knock knee but that rickets is not the sole cause of flat foot.

The conditions are, according to Moore of Portland, Oregon, intimately related to
rickets. Moore shows photographs of two puppies, litter mates, one rachitic through diet and the other by diet normal. The rachitic animal had notably enlarged and angular epihyses and flattened feet upon which he unresistingly sank. The normal dog was more on his toes. Rickets in the puppy results in a looseness of joints of the knees and bones of the foot as may be shown roentgenographically. When weight is imposed upon these, the condition in the knees results in genu valgum, or knock knee; in the feet, in the fallen arch.

Roentgenograms of children with rickets exhibit a comparable condition, improper apposition of the bones in the knees permitting a decided lateral mobility. In early rickets, Moore believes, the weight of the body causes the joint lines at the knee to form an acute angle instead of being parallel. Lateral mobility at the knee, which is often the first sign of rickets in children, may be measured and corrected, in many instances, by orthopedic appliances.

The skeletal signs of rickets appear in the various bones at the time of their most rapid growth. "Consequently the chief manifestations during the first six months of life are in the flat bones of the chest as in costomalacia, rosary, and Harrison's groove; during the second year, in the extremities as enlarged epihyses, genu valgum or varum and pes planus."

Foot and knee deformities should occur less frequently if well established knowledge of the anti-rachitic regime in childhood were applied.—Southern Medical Journal.

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**APPLIED SCIENCE**

**BY**

JOHN HARVEY KELLOGG, M.D., In "Good Health," Battle Creek, Michigan

We hear a great deal in eulogy of applied science, and justly. The applications of science have wrought miracles; they have revolutionized the world. Faraday discovered electrical induction. Edison applied the idea and gave us artificial sunshine. Joshua made the sun stand still, but applied science made the sun shine at midnight. Heron discovered the motive power of steam. Stevenson, Fulton and Watts applied the idea and gave us the steamboat, the railroad locomotive and the iron giants that turn countless millions of factory wheels and that have lifted from the shoulders of men the huge burden of onerous toil that had bound them to the earth through all the ages. Franklin coaxed the destructive lightning from the clouds with a kite, and Faraday, through his brilliant, untiring researches in electrical induction and conduction, helped bring into common usage an obedient household servant that sweeps, dusts, scrubs, irons clothes and washes dishes and makes the drudgery of house work a delight. Touch a button and it is done.

How we delight in these triumphs of applied science and justly boast of our great achievements! Every one of them is a jewel in the crown of civilization. But the pearl of great price we have not yet found with all our applications of science to commerce, agriculture, manufacturing and countless public and domestic utilities. We have not increased human longevity by a single day.

"Error," you exclaim at once, "a grave error; haven't the statisticians shown us an increase in the average length of life of fifteen or sixteen years within less than half a century?"

Perfectly true, but the average life is not your life or mine. The average man is an abstraction; he does not exist as a living human being. The application of science to water supplies and public sanitation, care of infants and sundry other public health activities has increased the life of the average man by keeping alive great numbers of feeble infants and weakly, semi-invalid people, thus improving the average but without adding one day to the life duration of those stronger, healthier individuals who constitute the backbone of the race. Centenarians are not increasing.

Fifty years ago about one man in 25,000 passed the century mark. One man in a thousand approached the hundred year mark but did not quite reach it. One
man in one hundred attained the age of ninety years; one in ten the age of eighty, and one in three or four the age of seventy-five. The number of persons who attain these ages is no greater today than half a century ago; in fact, the proportion of centenarians to the whole population appears to be diminishing notably, and the reason is our failure to apply science to our daily habits.

We have made our applications after a wholesale rather than a retail fashion. We have been content to deal with communities rather than individuals. Our highly efficient state and local boards of health have accomplished wonders in the suppression of epidemics and in the making of city life safer and more wholesome. Progress in these lines has been so great in recent years that there seems little room for further attainment. But when we come to the individual man, little headway has been made in persuading him to apply science to his personal habits. He still smokes, drinks occasionally at least, eats what he likes, when he likes, and as much as he likes, without raising any questions "for stomach's sake."

Isn't it about time we began to think of applying science to individual human life, to human habits in something like a thoroughgoing way? That such an effort would pay has been abundantly demonstrated in the experience of agricultural experiment stations in which such improvements have been made in horses, cows, sheep, pigs, chickens and even honey bees. One might almost say that new species had been created with qualities much more than one hundred per cent superior to the originals.

Here is another striking illustration: The world has always known that the rays of the sun possess a marvelous fertilizing power. Nearly four thousand years ago Aknaton, one of the most remarkable of all the Pharaohs, wrote hymns to the sun as a great source of life and power as well as of light.

A few months ago it occurred to a nutrition expert to try his vitalizing power of the sunlight upon chickens, and he discovered that when hens were given daily sun baths their fertility was enormously increased. They laid twice as many eggs and the eggs were twice as hatchable, so the actual product was quadrupled. This fact has been broadcasted throughout the United States.

But how many men and women have taken the trouble to apply this idea to themselves? The same subtle energy of the sunlight that enables a hen to lay more and better eggs will so fertilize the brain of a merchant, a lawyer, or a statesman that it will be able to produce more ideas and ideas that will hatch out into practical and workable plans for better business and better government.

Dr. Hornell Hart thinks it possible that by the year 2,000 the average length of life will be increased to one hundred years and babies will be born that will live two hundred or possibly two hundred and fifty years. This is no doubt possible, but this will not be accomplished by keeping feeble babies alive nor by multiplying insane hospitals and asylums for idiots and epileptics. If such a glorious triumph is attained, it will have to be accomplished through the conscientious application of scientific knowledge to our living habits in such a thoroughgoing way that our bodily machines will have just as good an opportunity for maximum efficiency as we now give to our prize-winning horses and cows and our automobiles.

Do not forget that any season of the year is a proper time to be vaccinated against smallpox.
LET RADIIUM JUGS ALONE

In our January issue we published a short article on the subject of radium under the title of "One More Cure-All." Dr. William H. Parker, hairman of the editorial board of the Northwestern Health Journal, warned the public of Minnesota to let alone a so-called radium jug which was being promiscuously sold throughout the state. The subject of the editorial was contained in an article in the Northwestern Health Journal, warning the public of Minnesota to let alone a so-called radium jug which was being promiscuously sold throughout the state that the editorial was written.

We thought we had made it just as plain as the English language could write it that this particular fake represented one of the newest and most complete frauds that had come to our attention in the year 1928. Therefore much to our consternation we have received a request from a writer in western North Carolina stating that she had read about this radium jug; that she was sick; her sister was sick, and reading about this jug in the Bulletin she wrote to secure a little more information about this radium jug in the hope that it would happen to be the particular thing needed to bring them back to health.

It is naturally discouraging to be misunderstood in such an evidently plain effort to warn against wasting money and valuable time on such fakes. We have always been much impressed with the characteristic tendency of people to misunderstand the written word. Several recent newspaper happenings throughout this section have convinced us that it is not the ignorant person every time who makes the mistake. We are convinced that a large proportion of the people, illiterate or educated, utterly fail to understand sarcasm whenever and wherever used. To those who can understand it, it is the most powerful weapon in the hands of any writer; but it is dangerous when the product falls into the hands of a person who cannot understand what sarcasm is.

In this connection we are reminded of the two fellows who were traveling at night when a thunder storm came up and frightened one of them, at least, very badly. The scared one urged his companion to "let's hurry home and seek forgiveness of our sins, because Judgment Day is certainly at hand." His companion replied: "Calm yourself, my dear fellow, there is nothing in the Bible anywhere that speaks of Judgment Day coming in the night." In other words, there are numbers of people in the world that take the printed word on the white page absolutely, literally, and unequivocally for what it says.

When contemplating our efforts at sarcasm we recall the epigram written by an unknown wag and contained in the home of Dr. J. C. Lettsom, the famous London physician, which he gave to the London Medical Society and which was its home from 1787 to 1850. The London Medical Society, by the way, was organized in 1773 and was, and is now possibly, the most famous of all European medical or surgical associations. The epigram reads:

"If any folk applies to I,
I physics, bleeds, and sweats 'em;
If after that they please to die,
Well, then—I. Lettsom."

So, in the future if anybody misunderstands our sarcasm, why we will simply have to let 'em.

INTERNATIONAL STUDY

Infantile Paralysis, which terrible in its after-effects presents one of the most urgent and difficult problems confronting modern preventive medicine, will be the object of a concerted three-year attack launched today by an international group of scientists seeking for its prevention.

This announcement was made public by Dr. William H. Park, Chairman of the International Committee for the study of Infantile Paralysis, who said that Jeremiah Milbank of New York had given $250,000 for the work.

OF INFANTILE PARALYSIS

Participating in the researches are Chicago, Columbia, Harvard and New York Universities in this country, and the University of Brussels and The Lister Institute of London. The Committee hopes as work progresses to enlist the co-operation of still other institutions and laboratories both here and abroad.

"Whether or not the virus of poliomyelitis can be isolated and grown and utilized for an antiserum vaccine, is a question of doubt," said Doctor Park, "but we are hopeful that something may be accom-
plished. At any rate, such practical questions as the value of convalescent serum, the methods by which the disease spreads and means for its prevention can be partly or wholly solved, and some practical results be attained to prevent the disease which has killed or maimed thousands in the last decade."

"Mr. Milbank's grant will be made available to the various institutions which are to co-operate with the Committee. Each university and laboratory will have absolute freedom in carrying on its investigations, but the results, studied and coordinated by the Committee, will represent a joint piece of work, each institution contributing what it is best fitted for."

With Dr. William H. Park of New York University and Director of the Bureau of Laboratories of the New York City Health Department as Chairman of the Committee, will be associated as Vice-Chairman, Dr. Joseph A. Blake, widely known as consulting surgeon of the Presbyterian, St. Lukes, Roosevelt and Orthopedic Hospitals in New York City.

The head of the department in charge of the work in each university and laboratory is represented in the Committee's membership which with Doctor Blake and Doctor Park is as follows:

Drs. Edwin O. Jordan and Ludvig Hektoen of Chicago University; Drs. Frederick P. Gay and Frederick Tilney of the College of Physicians and Surgeons of Columbia University; Drs. Milton J. Rosenau and Hans Zinser of Harvard University; Dr. Lee K. Frankell of the Metropolitan Life Insurance Company; Sir Charles Mar-

Makes no difference which one is having the birthday, both are celebrating the occasion with equal satisfaction. Pity the child that never had a birthday party of some kind.

tin, C. M. G., F. R. S., of the Lister Institute, London, and Dr. Jules Bordet of the University of Brussels; Samuel M. Greer, Treasurer, and Dr. Josephine N. Neal, Secretary. The Committee's headquarters will be at Doctor Park's office at foot of East 16th Street, New York City.

Little has been discovered about the prevention and control of infantile paralysis, in spite of the immense amount of study which has been given to the problem. There is no periodicity to recurrences of the disease which is both endemic and epidemic. The death rate from poliomyelitis was higher in 1927 than during any year since the epidemic of 1926.—International Committee for The Study of Infantile Paralysis.

DOCTOR CADMAN ON FAITH HEALING

Dr. S. Parkes Cadman, in addition to his duties as president of the Federal Council of Churches of Christ in America, and pastor of a New Church, conducts a daily column syndicated to a number of newspapers throughout the country.

Educated Christian people are always interested and concerned about the limits of faith healing and the principles of the application of faith in God toward relieving the diseases of the physical body.

The New York State Health News, published by the New York State Department of Health, in a recent issue quotes from Doctor Cadman's column in the New York Herald-Tribune. In this issue of March 30 of the Herald-Tribune some one asked Doctor Cadman the following question:

"If I read the Gospels aright, a very important part of Christ's mission on earth was that of healing the sick. Not only did He go about doing good in this manner, He also instructed seventy of His disciples in the spiritual science of healing as practiced by Himself and sent them out for this particular purpose, specifically telling them to 'heal the sick' . . . . In view of the foregoing, what excuse has the church today for its neglect of this vitally important feature of Christ's teaching?"

Doctor Cadman's answer to the foregoing question reveals such a comprehen-
sive understanding of the whole subject that it is herewith quoted in full, as published in the New York Health News.

"None whatever. The co-operation of clergymen with physicians for the benefit of the sick has scriptural sanction and is greatly to be desired. The Archbishops of Canterbury and York recommended this co-operation through a recent commission of their appointment and the report of which stated the conditions of a united ministry to body and soul.

"Such a ministry finds increasing support in both vocations. It does not ignore the historic development of healing by medical science and surgery. On the contrary, it regards this development as an integral part of the general progress of Christian as distinguished from non-Christian civilization.

"Neither do the churches purpose to recommit themselves to the curative vagaries of prescientific ages. They recognize the immense relief afforded by modern medicine and surgery and that it is the practical fulfillment of Christ's great saying: 'He that believeth in Me, the works that I do shall he do also; and greater works than these shall he do, because I go unto my Father.' (St. John xiv, 12.)

"The contrast between the important condition of the healing art in the time of our Lord (a condition which made His relief a necessity) and the hospitals and medicinal equipments of leading nations today is largely due to faith in Him, in His Gospel and in the beneficent laws governing physical health and wellbeing ordained by the Father whom He revealed. The subsequent discovery and application of those laws to human necessities is one of the brightest chapters in Christian annals."

Surgery the Weapon

While there are many recognized treatments for different forms of cancer in different locations of the body, it remains a fact that surgery is the main weapon today with which to combat cancer. Surgery is not only used as a cure, but it is the chief preventive of cancer. We have no desire or inclination to criticise any other forms of legitimate treatment, provided such forms of treatment are administered in the hands of competent surgeons who are thoroughly familiar with everything at present known about cancer.

Every individual who has a wart or a sore or any other suspicious abrasion which might be considered a precancerous condition should have the advice and treatment of a competent surgeon. The form and method of treatment should be left entirely to the surgeon's judgment.

In no field of human activity has ordinary common meanness been more prevalent than in the abuse of cancer patients by quacks and rascals of every conceivable description. The chief stock in trade of the quack is mystery. Their following is obtained largely through the claims they make for the mysterious power of some paste or liquid which they use on the poor patient. This procedure, coupled with a hypnotic influence over the relatives and friends who are fearful about the condition of their loved one, constitutes the stock in trade of the quacks.

There is positively no mystery about the surgical treatment of cancer. Every reputable surgeon in the world utilizes the same kind of instruments, and the technique of operation is practically the same. What is done in a clinic in New Orleans or Boston is identically the same things that are being done in New York and Chicago. Any surgeon who discovers and puts into successful effect a better surgical technique in the treatment of any surgical condition immediately reports such advance in a meeting of his fellows. It is open to cold analysis and discussion, and trial later by all of his fellows. If in the judgment of the majority of the ablest operators such new technique or procedure is found available, it at once is accepted and becomes automatically a part of the common possession of every reputable surgeon in the world. A clean surgical operation, performed at a time when in the surgeon's judgment it is indicated and necessary, is one of the safest procedures in the world.

The scientific world knows very little of the sum total that it is hoped sometime will be known about cancer, but it knows enough to state definitely that there are numerous conditions about the body that may be regarded as precancerous conditions, which, if thoroughly removed by
a surgical procedure, will result in a complete cure, and there will be no recurrence of such condition.

Radium and X-rays are, of course, very frequently employed in connection with surgical treatment. These comparatively new therapeutic measures may be said to share with surgery some of the honor in the successful treatment of cancer, but the surgeon should be the judge of when and how and what in dealing with the question of cancer.

COMPARISON BETWEEN WHITE AND NEGRO DEATH RATE IN CRAVEN COUNTY

In his weekly Health Column conducted in the New Bern Times Dr. D. E. Ford, Craven County Health Officer, recently presented in parallel columns a list of deaths caused from certain diseases in Craven county during 1927, of both white and colored people. Craven county has a large negro population, and as Doctor Ford notes, the white and colored population is almost equally divided, there being a slight predominance of whites over colored. The same kind of comparison might be published for each and every county in the State having a sufficient negro population to make a comparison worth while. Such a tabulation would be exceedingly interesting, more so, in fact, than a consideration of the plain, cold statistics for the State at large. But the comparison which Doctor Ford makes in Craven is probably a fair index of conditions existing in other counties, especially those having a large negro population.

We are reproducing below Doctor Ford's article in full, because the figures are very interesting and Doctor Ford's comments, which he sets forth as the principal reasons for the poor showing the negro makes in comparison with his white neighbors, are also interesting and instructive. Public health work will never reach its fullest attainment until the most ignorant and poverty stricken of the negroes as well as the white population receive every possible consideration and assistance through health education and improved economic status in bettering their condition.

Following is Doctor Ford's article:

"This is Negro Health Week—one of those special weeks set aside for a renewal of interest, when speakers stoke up the fires of their messages and their hearers gather to enjoy the reviving heat.

"It is a time to inspire a desire for better health and to point out how to go after it.

"What is the health status of the Negro in Craven county? Why?

"The death certificates come the nearest to telling the truth, and comparison with

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No better place for babies in summer than this clean Chatham County farm home.
White  |  Colored  
---|---
Typhoid  |  1  |  1  
Homicides  |  2  |  12  
Accidents  |  9  |  21  

"Why is the death rate of the Negro so much higher than that of the white? Why is there so much more sickness? There are three principal reasons:

1. Race: Diseases of the lungs—Pneumonia and Tuberculosis are more fatal to the Negro race.

2. Ignorance: The kind of ignorance that will not allow modern means of disease prevention, sanitation and personal hygiene; the kind that puts faith in superstitions, old "granny" cures and charms instead of treatment by the physician.

3. Poverty: Because there is more poverty among the Negroes than among the whites, housing conditions are worse, tuberculosis cases cannot be isolated or treated and in every other kind of illness, the doctor is called late or not at all and hospital and surgical treatment often impossible."

**DEXTROSE CANDY**

Small doses of dextrose candy taken between meals have helped a group of nurses at Jefferson Hospital of Philadelphia to remove surplus pounds of solid flesh.

The experimental work leading to these much-desired results was undertaken under the direction of Dr. Burgess Gordon and E. von Stanley.

In studying the question of obesity, Doctor Gordon operated on the hypothesis that the craving of fat persons for sugar may be a symptom of sugar deficiency. In such people it may be that the fat-forming food may be misdirected to channels from which energy is not already derived.

Consequently he decided to find out if weight would be lost when the class of foods comprising the sugar and starches were supplied in very readily available form, during actual exercise, so that its immediate utilization would permit only a minimum storage of fat.

A group of overweight nurses were accordingly selected for subjects and examined to rule out those with glandular disturbances or other physical drawbacks that might be aggravated by the diet tests. The diets, covering from 1,800 to 3,000 calories a day, were then arranged so that fat and protein were taken at meal times, while carbohydrate was taken between meals in the readily digested form of dextrose candy.

"The total intake of candy was between 3.5 to 6.2 ounces," Doctor Gordon explained. "The patients were advised to walk twelve blocks both in the morning and afternoon, and to consume the largest portion of candy during exercise. A fairly constant loss of weight occurred in six individuals during a period of three weeks. The greatest loss was 23 pounds."

Six of the eleven nurses who stayed in the test lost an average of three pounds a week and suffered practically no discomfort from the regime. Among those who did not lose, two took insufficient exercise, one was unable to follow the diet satisfactorily, while the question of endocrine disfunction was raised in the remaining two.—Science News-Letter.

**PLANT POISONING**

These are the days of vacations. People working in offices and stores and so on during most of the year are finding time in increasing numbers to go out into the woods, in the mountains, and the hills, and near the rivers and seashores for vacations. Many of them spend their time at small resorts in country districts, taking board and lodging in farm homes in order to produce a complete change in diet and living surroundings, and to get a thorough rest. We desire here to call attention to the inconvenience incurred when contact is made by susceptible persons with certain plants that are poisonous to the skin, especially of some individuals. Such an infection of course will spoil the entire vacation as well as to cause much suffering and inconvenience. We would advise every town worker who is not familiar with poisonous plants to get someone who knows to show them a sample of the poison sumac, poison ivy, and poison oak. These plants grow in abundance in nearly every section of the State, especially near the
FLIRTING WITH QUACKS IS DANGEROUS

By MILEY B. WESSON, M.D., San Francisco

When a person is desperately ill he insists upon a "regular" doctor, but when he is only ailing he is inclined to flirt with those in the twilight zone of medicine and then flaunt his infidelity before his medical friend. He is apparently prompted by the same motives as the men who in ancient times voted to ostracize "Alecibades the Just" from Athens because they were tired of hearing him called "the Just." For a stomach ache the drug clerk is consulted, but for a headache the soda-water dispenser is called upon. For information about raising healthy babies he consults the Children's Bureau of the Department of Labor, a pseudo medical organization supported by Congress and condemned by the American Medical Association primarily because one of its functions is to flood the country with ambiguous questionable "statistics." If he is interested in industrial lesions he turns to the reports of various state commissions (made up of laymen) and may be surprised to learn that one recognizes a new cause of death—heart strain—not known to pathologists or "The International Commission of the Causes of Death," Further, this state commission naively state that the views of the medical profession regarding hernia are "not entirely correct."

The man who for years has been content to add to his bank roll and his weight at the same time finds himself short of breath on the golf course. He consults with his colleagues and is told that undoubtedly he has just as much fat, in proportion, in his heart as on his abdomen. Soon he realizes that no one loves a fat man who wheezes. If he seeks out a professional gymnasium he will probably find himself under the control of a plug ugly, with a cauliflower ear, who will put him through strenuous exercises that ought to be the direct cause of his death, but instead may be only indirectly responsible. Further-

more this ex-puglist undertakes to prescribe for high blood pressure, rheumatism, insomnia, dyspepsia, constipation, obesity, et cetera, and talks learnedly about fasting, internal baths, and toxemia.

Or he may turn to the disciples of McFadden's Physical Culture. In twenty years this man graduated from the conducting of semi-ethical health homes to influence by abusing the medical profession and its teachings and vociferously advocating calisthenics. Physical Culture attracts attention with pictures of "big-muscle boys" wearing a surcingle and beautiful girls garbed in little more, thus catering to the pornographic taste and the biological urge of both sexes. Incidentally it preaches unscientific exercise and diet. McFadden and his followers, while ostensibly giving advice about athletes, are really practicing medicine without a license, treatment being just as much a part of medicine as diagnosis. The information about types of exercise is valuable, but the allegations as to curing organic diseases with exercises are not only nonsensical, but vicious. Recently they published the details of an alleged cure of syphilis with exercise and diet. This is equivalent to repairing, the broken universal joint of your automobile by pumping up the tires. The opinion of a gymnasium instructor about diet can be gauged by his knowledge of balanced diet, food values and the related organic chemistry, but unfortunately the general public is not competent to evaluate this and hence they accept the bizarre theories. Often the advice of the newspaper Health Column, conducted by a "doctor," is followed, but the sufferer does not know that no longer is the term doctor restricted to a physician and surgeon and that the published opinions may emanate from psychologists, chiropractors, or beauty doctors, who have no adequate training to discuss intelligently such medical subjects.—Better Health.
How to keep babies healthy -

A daily sun bath -

See that baby gets plenty of pure milk -

Give him plenty of fresh air -

And regular hours of sleep -

Don't worry baby by kissing him all the time -

And give him a daily bath -

---Woodliefco '27
WESTERN NORTH CAROLINA IN JUNE

"Tell you what I like the best—
'Long about knee-deep in June,
'Bout the time strawberries melts
On the vine—some afternoon
Like to jes' git out and rest,
And not work at nothin' else!"

—JAMES WHITCOMB RILEY.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils  Fly Placards  Sanitary Privies
Cancer  German Measles  Scarlet Fever
Cataract  Hookworm Disease  Smallpox
Care of the Baby  Infantile Paralysis  Teeth
Constipation  Indigestion  Tuberculosis
Colds  Influenza  Typhoid Fever
Clean-up Placards  Malaria  Typhoid Placards
Chickenpox  Measles  Venereal Diseases
Diphtheria  Pellagra  Water Supplies
Don't Spit Placards  Public Health Laws  Whooping Cough
Eyes  Prenatal Care
Flies

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of a monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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ROBESON COUNTY PUTS ACID TEST TO ITS HEALTH DEPARTMENT

Webster's International Dictionary defines "acid test" as "a severe or final test, as of value, authenticity, genuineness, or the like." Gold is tested by means of acid. Material masquerading under the name of gold, when submitted to the acid test in the hands of a competent jeweler, immediately indicates its fraudulence.

Robeson county was one of the first four counties in the State of North Carolina to adopt a whole time health officer plan and to employ a physician for his whole time to serve the interests of the public health in that county. The counties of Durham, New Hanover, and Guilford were the only counties in North Carolina preceding Robeson in this undertaking. The work was commenced back in 1912 and has continued without interruption to the present time.

For the past eight years Dr. Eugene R. Hardin, an able physician and a competent health officer, has been head of the Robeson County Health Department. Doctor Hardin's ability as a health officer was recognized by his fellow officers in North Carolina in 1926 when he was elected President of the State Health Officers Association. Doctor Hardin is a man of ability and courage, has no pretense, and less than no hypocrisy when it comes to carrying on his duties. He has made a faithful and efficient director of health work in that county.

The progress achieved in the administration of the health affairs in the county has ranked about on an average with other counties in the State confronted with similar conditions. Although Robeson is one of the most populous counties, probably the largest in geographical area, and one of the wealthiest, and also a county with small bonded indebtedness, the Health Department has ranked twenty-one in a group of thirty-nine counties having whole time health departments in the matter of money expended in health work in the county. In other words, there are twenty counties that have larger budgets than Robeson county, and with four or five exceptions all of them are poorer counties and less populous counties than Robeson. Another difficulty which confronts the Robeson Health Department in making any extraordinary showing in preventable disease reduction has been the fact that it has a large Indian population with standards of living different in many respects from other classes of the State's population. This Indian population is peculiarly susceptible to some of the preventable diseases. In the face of all these difficulties the Robeson health work has been able to show through all the passing years since its establishment a record favorable to the county when compared with a majority of the other counties having health work.

Northwithstanding all the foregoing facts, in the Legislature of 1927 the Senator from Robeson county pushed through the Legislature a law requiring a vote of the people of the county on the question of whether or not to continue the health department work of that county. The question, in accordance with this local politician's law, included such other agencies in that county as welfare work, home economics, and farm demonstration, and so on. The time designated in the law for this election to take place was on June 2, the day and date of the Democratic State and county primaries. The vote was simply "yes" or "no" on the proposition of favoring the continuance of the health department activities. The campaign slogan was "down with taxes," "down with
jobs," and "down with job-holders at the expense of the people of the county." The proponents of all these progressive and humanitarian activities of the county simply answered such tactics with the plain facts of what had been accomplished under whole time health service, especially for the last eight years under the administration of Doctor Hardin. In short, a single local politician was able to subject the health department of Robeson county, with the other agencies aforementioned, to the acid test.

It is gratifying to record that the department came through the test demonstrating its fitness to survive. The overwhelming majority of the voters of Robeson sustained all these progressive activities of the county, and it is a genuine pleasure to know that the health department work led any of the other agencies in the number of favorable votes cast. So far as we know this action of the Robeson county electorate constitutes the first instance in this State in recent years of a direct approval of a modern health department by the people, as expressed in a popular election.

The sole reason for the existence of a county health department, or any other sort of health department, local, city, or state, is to prevent disease and to make life safer and more comfortable for its citizens. The health department activities come in closer relationship to the people of the county than any other activity in a county, with the single exception of the school affairs, and even in that field the health department and the school departments are intimately related in their activities for the public benefit.

The successful health officer is primarily an educator. The success or failure of his work must largely depend on his ability as an educator and leader. The people of Robeson county have expressed their confidence in their health department on account of the fact that they had confidence in the leaders of their county health work. As the next session of the North Carolina Legislature is approaching, it would be well for other health officers in the State to take inventory, so to speak, of themselves and their offices, and be ready to answer the question in their own minds, and later at the polls if necessary, as to whether or not their people would vote to sustain the continuance of health department activities. It is necessary and wise to do this, because no living human being can ever predict what a "ward heeler," a local political light, will undertake when he comes to Raleigh to enact laws under which his constituency must live.

Fortunately, speaking for many years, the Legislature of North Carolina has been composed very largely of honorable, able, and forward-looking men. Legislation adverse to the best interest of the people of North Carolina from a state-wide standpoint has been impossible or, at worst, exceedingly hard to enact on account of the state-wide viewpoint of so many able men in the Legislature. The old fool doctrine, however, of senatorial courtesy has been the means of permitting vicious legislation from time to time applicable to single counties. In such instances as the Robeson county case the people have no recourse except to do as the Robeson county electorate has so magnificently done, and that is to go to the polls and register their displeasure in the only kind of language a ward heeler can understand, toward any such unnecessary and foolish legislation. Such enterprises, however, are unnecessary, cause loss of time, and trouble and cost money, and the people should not permit in future any such troublesome enterprise to get any nearer a law than an adverse committee report in the Legislature.

Congratulations and best wishes to the Robeson County Health Department and to the people of that county for their eminent good sense.

On Monday, June 4, following the primary election, under the heading "Results of Primary" the Lumberton Robesonian has the following comment in its lead editorial:

"One result of the primary of June 2nd over which everybody can rejoice—we are persuaded that even those who voted against the program will rejoice later that their votes did not prevail—is the overwhelming victory for health, demonstration and welfare work. It is settled, and settled forever, no doubt, that Robeson county folks appreciate the great good accomplished by their health physician, county health nurse, home and farm demonstrators and welfare officer, and want to keep them. It was most unnecessary and uncalled-for to thrust such a question into a primary, an entirely gratuitous and reck-
less procedure, for there was never any question about where the people of the county stood on these agencies and it has been decidedly rebuked by an avalanche of votes that should hearten for even greater efforts the faithful doctor, nurse, home and farm agents and welfare officer whose labors are bearing such abundant fruit in Robeson. It was a glorious victory."

DOCTOR BREWER'S ARTICLE

Through the courtesy of Dr. L. B. Mc-
Breyer, secretary of the North Carolina Medical Society, and the author we are privileged to publish in this issue a paper by Dr. J. S. Brewer, which was read at the recent meeting of the North Carolina Medical Society. Doctor Brewer was chairman of the Section and the subject of the paper is "The Responsibility of the Public in the Matter of Maternal and Infant Mortality." This paper is one of the most thoughtful that has been published in the Bulletin in many a day. The Editor of the Bulletin was for nearly ten years a practicing physician and he knows through experience that Doctor Brewer has pointed out some of the most conspicuous causes of our high infant and maternal death rate in this State.

We wish to urge all thoughtful people, and especially prospective parents, to read this article with great care.

THE RESPONSIBILITY OF THE PUBLIC IN THE MATTER OF MATERNAL AND INFANT MORTALITY*

BY

J. S. BREWER, M.D., ROSEBORO, N. C.

During the past eight or ten years much has been written and said about the maternal and infant mortality rate in the United States and it has been repeatedly compared to the rate of certain European countries, much to our discredit. While the accusation has not been directly made, the implication has been that the apparently higher mortality rate in this country rests primarily upon the medical profession. Now I believe that this implication is unjust and unfair and that a careful analysis of the many influences that affect the conduct of pregnancy and labor in the United States will disprove it. A careful observation of the attitude of the public, the layman, if you please, toward pregnancy and labor will, I believe, establish that a goodly portion of the responsibility in the matter rests upon our citizenry as a whole.

Our maternal and infant mortality rate in the United States, even here in North Carolina, is, I think we all agree, far too high. But when one considers that the collection of vital statistics and the recording of deaths in different countries of the world varies considerably and that there are certain geographical and climatic influences that affect life, health and disease the statement that we stand about fourteen from the top in the care that we give pregnant women in the United States is, I believe, open to question. However that may be, one cannot escape the conclusion that here in North Carolina, for instance, many mothers and babies are lost annually, who ought to be saved. No doubt that we as a body of physicians do not render the full service of which we are capable, but I do not believe that our faults cover the whole field of responsibility in the matter. It is my purpose, therefore, to point out certain fallacies in the attitude of the public toward pregnancy and labor, which, I believe, favor a high maternal and infant death rate among us.

Child bearing has for so long a time been looked upon as an entirely normal and physiologic affair that the idea that it borders closely on the pathologic and in
an apparently increasing number of cases is actually pathologic seems hard to get across to the lay mind. We have inherited from our forebears a sort of complacent attitude toward pregnancy and labor and one not infrequently sees evidence of it cropping up in the public mind to this day. The husband who would immediately seek medical advice if he had an attack of indigestion sits calmly by and sees the wife go through the throes of early nausea and vomiting with the hopeful thought that it is an entirely normal and physiologic affair. The headache and edema of late toxemia occasion more interest and perhaps a little anxiety. The old black mammy midwife is consulted and she says she was that way and then satisfaction reigns again. They think all is well. And this despite the fact that the medical profession and public health agencies have been preaching prenatal care for a generation. Doctors have done their best to inculcate the idea of prenatal care for every woman into the mind of the layman. This effort is not confined to those who practice obstetrics but is made by men in every branch of medicine. Who among you does not occasionally have a woman of seven or eight months gestation come in, referred by the oculist to whom she went because of headaches? There are yet some who are so indifferent that no train of symptoms, no matter how pronounced, occasions interest in them and medical advice is not sought until the woman is thrown violently into the throes of eclamptic convulsions. I can not believe that these conditions are the result of ignorance, for the truths of prenatal care have been scattered so thoroughly and blazingly that he who runs may read. It seems to me more a matter of indifference and an unwillingness to accept newer knowledge contrary to the traditions of the past. In this connection it is well to remember that the public attitude toward medical knowledge goes hand in hand with that toward religion. The war about evolution is not yet over and there are those who don't believe the hereditary laws established by the monk Mendel, nor in the efficacy of diphtheria antitoxin. They would make facts a matter of belief. The public attitude toward doctors and medical knowledge is not yet far removed from superstition, mysticism and quackery. Witness that today, 130 years after the memorable work of Edward Jenner, there are sections of North Carolina where the incidence of smallpox is now so great as to cause alarm.

I next call your attention to the fact that the layman fails to use discriminating knowledge toward the conduct of labor. It is frequently expected that the remote practitioner will use in the home the elaborate methods of the best men in the best hospitals. Mrs. A. meets Mrs. B. from the city whose cousin in New York was delivered by Doctor C. in a lying-in hospital by version under ethylene anesthesia without fear or pain. Immediately she returns to her doctor in a town of 500 people and demands that she be delivered in like manner. Mrs. B. neglected to tell her that Doctor C. in New York was assisted by three interns, a skilled anaesthetist and several nurses. Again Mrs. A. reads in the Ladies Home Journal of the wonders of twilight sleep or ether-oil rectal anesthesia and immediately she demands this of her doctor when he arrives on the scene and finds complete dilatation and the head on the perineum. The article she read did not mention that these agents are to be administered at the stage of two or three fingers dilatation. Obviously the general practitioner can not carry into the home the advantages and relief of the maternity hospital. And the layman seems to have the idea that labor is a process that can be terminated at the will of the medical attendant without jeopardy to the mother or child, which of course is not the case. Many are the weary hours the doctor spends while some anxious relative parades the room beseeching him to terminate a normal labor as if he just sat there enjoying the sufferings of the parturient woman.

Dr. Greer Baughman of Richmond says, "I am rather of the opinion that impatience on the part of the mother, family and doctors kills more mothers and babies than poor obstetrical judgment." I believe that impatience on the part of the doctor is a normal mental reaction to the frequent demands by the family that he interfere and terminate labor. A full appreciation by the patient and relatives of the knowledge and skill of the physician in the conduct of labor would eliminate fully ninety per cent of the haste and unwarranted interference on the part of the doctor.

Another thing is the cheapness in which human life in infancy is held. There seems
to be a widespread disregard of the value of infant life. Many times when I have been begged to interfere without justification I have been told that it didn't matter about the baby, "Rush it on, if the baby is lost we will excuse you." This attitude is difficult to explain. Perhaps it is an economic problem. The infant earns nothing and costs much. May be it is because so many of these little fellows are merely accidents in the gratification of human passions. I urge a keen appreciation of the life of the unborn child. Coming as he does without volition of his own he deserves the right to be safely born.

One of the chief causes of poor obstetrics is poverty and this applies particularly to the South and its rural districts. In the large cities of the North and West the medical schools, municipal clinics and hospitals and philanthropists amply care for the charitable obstetrical cases. But here in North Carolina, for example, what public provision has been made that every woman shall have the care of a medical attendant during confinement? So far as I know this problem has had little public recognition and the matter has almost been wholly left to the altruism of the medical profession. Altruism is a fine thing indeed and I am glad that in no other composite body of society does it exist so largely as in our profession, but we may as well hesitate to consider the fact that the medical profession in North Carolina, be it ever so willing, will never be able to unselfishly meet the needs of every poverty-stricken pregnant woman within our borders. And it is not just that we should do so. This is a burden that ought to be borne by society as a whole and I make the statement without fear of future contradiction that until the public as a body politic makes some manner of provision to lighten the burden of the charitable obstetric patient on the physician that we shall not see the day when every woman can be assured medical services during confinement. The solution of this problem is not within the confines of this paper and I only leave the thought with you for what it is worth.

When we come to think of it the public has largely failed to recognize its duty to the poor man in the case of sickness. We have made provision to educate him. We spend vast sums to punish him and his if they stray into crime. But little of the public money goes to care for the indigent sick and this applies not only to pregnancy and labor but to sickness generally. There are many obstetric cases that in the very nature of things cry out for hospital confinement and by all the teachings of Christianity and economy of life and health they ought to have it. But

There is no evidence of malnutrition exhibited in this picture. The fine boy with his pony and cart is the young son of the Dare County physician. He is starting out to gather up a load of Manteo youngsters for their usual morning ride.
there are not sufficient hospital beds for them and if there were they could not under the present system pay the bills. Obviously it is impossible that all kinds of obstetric abnormalities and emergencies can be met and handled by a lone attendant in the home with any hope of low mortality. The resources of modern surgery are none too good for the woman who has an ectopic gestation or an appendicitis, but to go to all the trouble and expense of a major surgical procedure just because the woman is going to have a baby does not seem to be sound economic practice.

The public has largely left the establishment of hospitals in North Carolina to the medical profession. Those who have engaged in this endeavor have wrought well. But how much broader the service rendered if the public had met and solved the problem! Where would we be today in the matter of public education if it had been left to the few pioneers and their boarding schools of a quarter of a century ago? And yet that is what has been done in the matter of hospitals. There are millions of public money to spend for schools, hard roads and fine court houses, but little for public health and the care of the unfortunate sick. Yet I believe that the establishment and maintenance of hospitals for the masses is just as much a public duty as is education, good roads or fine jails.

And lastly I call attention to the attitude of skepticism with which every advance in obstetric knowledge is viewed. While a few may accept with intelligence the evidence of our increasing knowledge the public as a whole is prone to view with apprehension any departure from the usual in obstetric practice. It is not yet a hundred years since physicians were persecuted and driven from the church because they dared to relieve the pains of labor by the administration of chloroform. This because they were in conflict with the Biblical statement that “in pain shall the woman bring forth her young.” Physicians have been charged with mercenary motives in their campaign for prenatal care. Many advances have met with skepticism and even derision on the part of the masses they were designed to benefit.

The important problem before the profession and the public is, how is maternal and infant mortality to be reduced. The answer is education. Education of the profession to every advance in obstetric teaching. In the profession the bug-bear to advance in obstetric practice has been the idea that nothing should be taught that can not be practiced by the general practitioner in every home. This erroneous conception in medical teaching is happily disappearing and the instruction of almost every obstetric clinic is now open to any practitioner, whatever his situation. Education of the public toward an appreciation of the possible seriousness of pregnancy and labor and of the often life-saving service of modern obstetric care and surgery is a far more difficult problem. To this end we must enlist the aid of every physician, whatever his specialty, of every public health agency and every intelligent woman who receives obstetric care. So I urge you to impress upon each of your patients the importance of these things that she will not be content until every pregnant woman in her neighborhood engages and receives proper medical care. And let us as physicians strive to impress upon the public that there is a Christian duty in the problem of charitable sickness and to awaken the public conscience to the end that not another court house or jail will be built in your county or mine until the opportunity of hospitalization is available to the poor as well as the rich when needed. And finally, let us accept any proffered legitimate aid that has for its object the promotion of a better and safer motherhood, whether it be state or federal, Senator Reed to the contrary notwithstanding.

**JIMMIE ONION AND JENNIE BEET**

_by Cleone E. Hobbs_

“Why do the children love you so?”
Said Jimmie Onion to Jennie Beet

“Cause I am so sweet.”

Said Jennie Beet to Jimmie Onion,

“Why so pale and sad?”

Replied weeping Jimmie,

“Cause I smell so bad.”

“Don’t cry, Jimmie,” said Jennie,

“T’ll tell you what we’ll do,

“We’ll get the mothers to cream you
And the kiddies will love you too.”
Immunity may be defined as that condition in which the human organism is able to successfully withstand invasion by bacteria or other disease producing germs.

It may be subdivided into congenital, natural and acquired. Acquired immunity may be further subdivided into active and passive. Immunity may also be partial or absolute, specific or general.

Congenital immunity is conferred by the mother, through the passage of immune bodies from her own blood to that of the child, before it is born. This immunity in most instances is not permanent, lasting for a shorter or longer period of time.

It is very fortunate that most infants are immune to diphtheria at birth and continue so until about six months old. At about that age most infants begin to lose this immunity, and from six months to six years is found the highest percentage of children susceptible to diphtheria. Up to the age of about six months they are protected by congenital immunity and after the age of about six years many of them are protected by acquired immunity. It is partly because of a higher percentage of non-immune children between the ages of six months and six years, and partly because diphtheria is so fatal in children under six years that doctors advise toxin-antitoxin for this age group.

There seems to be very little congenital immunity against measles, whooping cough, smallpox, scarlet fever, chicken pox, infantile paralysis, influenza or meningitis. Babies from a few days to a few weeks old may be seen with these diseases.

Natural immunity may be partial or absolute and in either case it may be in part due to heredity influence. All of the factors governing natural immunity are not known. We know, however, that in most cases natural immunity is only partial, because a person may be exposed to a contagious disease at one time or several times and escape, but at another time he contracts the disease readily. Just why this is the case is not known.

At this point resistance and virulence may be discussed, both of which modify immunity. By resistance is meant the defenses built up by nature which in a general way resist disease. The amount of resistance that a patient has plus the virulence of the invading disease producing germs, determines the outcome in a given case.

Resistance is built up by properly regulating one's life as regards food, rest, exercise, habits and hygiene.

It is probable that no one is immune to tuberculosis, yet most of us die of something else. Here resistance is the big factor in reducing the death rate. Very few people die of tuberculosis among the moderately well to do class. They are able to secure expert advice in the care of their sick, and to buy proper food and other necessities for building up resistance.

Virulence is that property of disease producing micro-organisms which determines their capacity to produce disease and deaths. The patient may have good resistance but the invading germs may be so virulent that the greatest resistance is not sufficient to overcome the disease.

During the pandemic of influenza the disease was more virulent in cities than in towns and in army camps than in cities. This was thought to be due to the more rapid passage of the germs from person to person in the more congested cities and camps. That in passing so rapidly from one person to another the germs acquired virulence.

It is known that very virulent disease germs may be cultivated on artificial media in the laboratory for a number of generations until they become so attenuated that even large numbers of them are incapable of producing disease. This fact is made use of in experimental work and in producing immunity.

Because of the degrees of virulence of the disease germs and the degrees of resistance of the human body there are mild, moderate and severe types of the same disease.

In acquired immunity, antibodies or immune bodies are produced by the blood and tissues of the human, in response to
stimulation by disease germs or their toxins or both. If this occurs as a result of the disease itself it is called natural acquired immunity. If it is the result of inoculations of dead germs and their poisons as in vaccinations against typhoid fever, it is called artificial acquired immunity.

It has long been known that in many diseases something occurred that rendered the body immune to future attacks of the same disease. This fact was made use of in experimentation to determine if possible whether immunity might not be conferred artificially. Certain new substances were found to be in blood obtained from patients who had recovered from typhoid fever and other diseases. Through a series of experimentation with some of the lower animals it was proved that immunity could be conferred through artificial means.

Specific active immunity in the particular disease named is conferred in practically all cases, by one attack of measles, chicken pox, smallpox, typhoid fever, dengue fever and several other diseases. Artificial active immunity is now practical in typhoid fever and smallpox.

The immune bodies in the blood of patients who have recovered from a communicable disease are specific for that particular disease. They do not contribute toward immunity to any other disease.

Inoculation against typhoid fever is the best known of all immunizing procedures. Typhoid fever germs are grown in the laboratory, killed, preserved by adding a small amount of a coal tar antiseptic and put up into sealed glass ampoules for use when needed. The concentration of the preparation is standardized, so that each drop contains a certain number of millions of dead germs with their toxins.

It was found that soldiers inoculated with this substance did not contract typhoid when exposed to it. Millions and millions of people have now been immunized against typhoid fever. During the World War every soldier, sailor and marine was thus protected against this disease.

Smallpox is the oldest of the communicable diseases in point of active artificial immunity. In this disease at the present time the virus is taken from healthy cows which have been inoculated with the disease. The reaction is milder than would be the case if the virus was taken from the human and the possibility of transmitting a serious blood disease of the human family is obviated.

Passive immunity is artificially produced by injecting into the human blood or tissues, immune substances that have been manufactured by the blood of one of the lower animals.

Diphtheria antitoxin is the best known of this type of immunizing substance. It is made from the blood of the horse. A perfectly healthy young horse is injected with dead diphtheria germs and their toxins. A few days later, after the reaction has subsided, he is injected with a larger dose. This process is repeated several times, giving larger and larger doses until the blood of the horse is teeming with immune bodies specific for diphtheria. Then the horse is bled, the blood centrifuged, so as to get rid of the blood cells and the clear serum decanted for use.

As in the case of other biological products this is standardized and mixed with a preservative before being put on the market. It is then sealed in glass syringes or ampoules for future use.

Injection of an antitoxin gives immediate passive immunity.

In recent years science has given us toxin-antitoxin which confers active immunity. This active immunity is produced rather slowly, therefore the injections should be given during the summer so that immunity will take place before fall, when the diphtheria season begins.

More recently scarlet fever and measles have been placed in the list of those diseases that are susceptible of immunization. However, since scarlet fever is not so readily contagious as to become epidemic, active immunity against this disease is impractical. Whenever there is scarlet fever in a family in which there are other children exposed to the disease, passive immunity for the other children may be obtained by administering scarlet fever antitoxin.

Measles is a very contagious disease and at times children are exposed to it who are physically unfit to withstand the disease. Such children may be immunized by serum from persons who have just recovered from measles. In fact where the serum cannot be obtained whole blood may be drawn from patients who have just recovered and injected into the muscles of the child to be immunized. It is just as efficient as the prepared serum, but it must be injected immediately after being drawn.

THE HEALTH BULLETIN

June, 1928
Now let us see just what in a practical way all this means to each mother. There are six diseases from which we may obtain immunity, either active or passive.

Active immunity, artificially produced, requires from a couple of weeks to more than three months for complete immunization. Immunity of this type lasts for a period of one or more years. Usually for several years in the case of diphtheria, and from one to several years in the case of typhoid fever. In smallpox it apparently lasts from several years up to life time.

Passive immunity is produced within a few hours and lasts for a few weeks.

Children who incur deep punctured wounds or badly lacerated wounds should be given tetanus antitoxin for prevention of lockjaw.

All children long before reaching school age should be vaccinated against smallpox. They should, of course, be vaccinated and re-vaccinated at any age if exposed to the disease.

If typhoid fever develops in a community, or if typhoid was in the community the year previous, all persons over six years and under fifty should be inoculated against typhoid.

If a child who is diseased or who has lately recovered from whooping cough, should be exposed to measles, that child should be given immune serum or immune whole blood which will confer passive immunity for a few weeks until the danger of contracting the disease has passed.

If a case of scarlet fever develops in a home in which there are other young children, passive immunity should be conferred upon these other children by giving them scarlet fever antitoxin.

Certainly all children between the age of six months and six years should receive toxin-antitoxin during the summer months. All children who have not had toxin-antitoxin and are exposed to diphtheria should be given antitoxin.

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**APPENDICITIS AS A PUBLIC HEALTH PROBLEM**

**BY**

MALCOM THOMPSON, M.D., Greenville, N. C.

Appendicitis is not a public health problem because of its being preventable or contagious, as all of us know it is neither. It is a problem for the public in that early recognition of its initial symptoms and the prompt institution of proper treatment greatly reduce the death-rate from it.

The first symptoms of appendicitis are easily recognized. The majority of cases are typical and present no difficulties of diagnosis while a few are unusual in their manifestations and may temporarily baffle experienced physicians. Pain near the middle of the abdomen soon followed by nausea and vomiting is usually the first symptom. This pain resembles a gripping sensation of the intestines and the patient frequently thinks it is due to constipation. The nausea and vomiting come regardless of what the patient has eaten though it is worse if the stomach has recently been filled. In a short time the pain moves to the lower right portion of the abdomen where it remains. The pain may be slight or severe depending upon the intensity of the inflammation and the temperament of the individual. The muscles of the lower right abdomen become tense and hard, and the right knee is frequently drawn up because it lessens the discomfort. There is some slight fever as a rule though it is only seldom that a rise in temperature constitutes a prominent feature; and there have been serious cases with no fever whatever.

When a person has the foregoing conditions his trouble will most likely be found to be acute appendicitis. Without treatment one of several things may happen. He may recover from the attack but should he do so he will most surely have another more severe and more dangerous. An abscess may form which will jeopardize his life and will either have to be opened or will rupture spontaneously, necessitating many weeks of invalidism and suffering. Very likely the appendix will rupture, causing a widespread infection of
the abdominal contents called generalized peritonitis which is a serious ailment that often results fatally.

The only satisfactory treatment for appendicitis is early removal of the appendix by means of a surgical operation. The mortality and morbidity from the disease depend almost entirely upon the amount of time that clapses from the onset until an operation is performed. Operation within the first twelve hours leads to recovery in more than ninety-nine per cent of all cases so treated. Any form of treatment after the first forty-eight hours of the disease carries a mortality of from eight to thirty-three per cent depending upon the type of treatment and the skill of those employing it. The operation should preferably be done in a well-equipped hospital, but lacking such facilities it can easily be done, with a little extra work, in the home. Just as all other surgical operations it should be done only by those specially trained in the art of surgery.

While suffering with appendicitis patients often say, "Doctor, just now I can not afford to be away from my business. Can't you tide me over this attack and then in two or three weeks I will have my appendix removed." No human being is so learned that he can tell before opening one's abdomen the degree of inflammation existing in the appendix. A large number unless operated upon quickly will terminate fatally and since we can not separate the cases of severe inflammation from the mild ones we advise immediate operation in all.

At the present time we know of no treatment that will prevent the onset of appendicitis. It is most common in young adults and frequently attacks those apparently in robust health. We can not prevent it, but once it is present we can lessen its severity while waiting for the physician to call and make his diagnosis. That is done by having the patient rest quietly in bed and withholding any food, drink or medicine. Food and drink are harmful in that they increase the discomfort and may cause spreading of the inflammation. All medicines are positively injurious. Sedatives mask the symptoms and make the reaching of a diagnosis more difficult. Laxative and cathartic drugs lessen the patient's resistance and cause a dangerous spreading of the inflammatory process. Aside from discharging dynamite in one's hand I know of nothing more dangerous than the taking of a purgative by an individual suffering from abdominal pain and discomfort. Misguided parents and neighbors "If I can only get something through him, he will soon be all right." Better for the patient to go without a bowel movement for a whole week than take a purgative while the appendix is inflamed. Ignorant drug clerks have purged many patients to their graves by dispensing drugs for appendicitis and other abdominal disorders. The only thing for a patient with abdominal pain to do is to consult his physician.

While waiting for the physician to arrive after having been called an ice-cap or hot water bottle may be applied to the painful area. There is no such thing however as "freezing it out" or "scattering it." As previously stated an inflamed appendix will either get well of itself, which is unlikely, or will kill its host unless it is previously removed by surgical means. The operation can be readily and easily performed and for those who dislike the taking of ether or gas it can comfortably be done with the aid of a local anesthetic.

A RESPECTABLE FEAR OF CANCER

A bulletin of the American Society for the Control of Cancer quotes Doctor Soland as saying that a 'respectable fear' of cancer is a good and wholesome thing to have, for this type of fear—as distinguished from hysterical and morbid fear—leads to an early recognition of the existence of cancer when it is present and, consequently, to an early consultation with a competent medical advisor.

The expression "respectable fear of cancer" is a happy statement through which to say something that has always been in the mind, consciously or unconsciously, of every physician who has had the management of a case of cancer. Respectable fear simply means that when any suspicious symptom presents itself the person concerned will lose little time in having a thorough investigation made by a competent physician.

The average man or woman who hears of a diagnosis of cancer being made looks upon it as a death warrant. People generally believe that cancer is always fatal. In the neglected cases, where cancer has
secured a firm hold and has progressed to a certain point, such a prognosis is, of course, generally true. Twenty-five years ago the same thing could be said of tuberculosis. The relatives and friends of a patient having that disease would, of course, beg the doctor to say nothing about it to the patient because they knew it meant death in almost every instance. Naturally the doctor himself was loath to inform a patient of the truth when he made the discovery. The direct opposite is now the case. Every effort is made on the part of everybody to make an early diagnosis when tuberculosis is suspected, even remotely. The reason for this change in attitude is because tuberculosis, when discovered early and the proper regime established and followed closely, seldom proves fatal at this time. There is no doubt that very many cases of cancer can come in the same class.

There is what is called a diagnosis in the "precancerous" stage when a condition is discovered by a person's physician that might result later on in the presence of a cancer, such as a sore mouth or tongue, say, resulting from the sharp edge of a decayed tooth. The simple removal of the tooth and the cleaning up of the mouth in the beginning of such trouble naturally results in a cure and there is no more fear of danger from that source. If neglected, it is possible for cancer to develop and to soon reach an incurable stage. Therefore, as the authority above quoted says "a respectable fear of cancer," or of things leading to the development of cancer, is a good thing for people to have, because having such a fear induces caution and the search for a remedy without delay. The fear of smallpox will lead an intelligent person to seek vaccination and, therefore, protection against that disease. The same thing applies to other diseases in which there are sure preventives. A morbid fear, on the other hand, will lead a great many people to conceal any suspicious symptoms until in the case of the development of a genuine cancer it is too late for remediable measures to save such a person's life. Another thing, a morbid fear of cancer, like a morbid fear of any other disease, imposes cruel neglect upon unfortunate people suffering, especially in the last stages of cancer. Let us condemn morbid fears and encourage respectable fear of cancer.

Visitors to Manteo will recognize this as a picture of the yard at the Tranquil House, where during the summer months the good old-fashioned game of croquet is played from morning until night.

The great white magnolia tree in the center of the picture together with the fig trees at the left are among the finest specimens grown in the State.

Blessed is the vacationist fortunate enough to visit Manteo in summer time.
ABOUT QUITTING THE TOBACCO HABIT

A correspondent writes to know about the advisability of abruptly quitting the tobacco habit which has been of long standing. The inquirer states that he is suffering from various digestive and nervous disturbances, and that it has been suggested to him that the possibility of his somewhat excessive use of tobacco over an extended period of years may be the cause in part of his nervous troubles. He states in his letter what every user of tobacco who has tried to quit knows only too well, and that is that he quit for a period of several months some two or three years ago and that during that time he was more nervous than ever, craved tobacco continually, chewed gum incessantly, and altogether at the end of the period was worse off than when he tried to quit it.

There can be no doubt that if the tobacco habit has been a long time established that abrupt quitting is a difficult thing to do, even when there are imperative indications demanding total abstinence. This man, in chewing gum as a substitute, very likely made a bad matter worse because, on account of the excessive stimulation of his salivary glands, his digestive system was deprived of necessary secretions probably even more than when he was chewing tobacco. For such a patient the average doctor can only advise a reduction in the amount of tobacco used, say of about fifty per cent, requiring a greater period of time between chews or smokes, as the case may be, and in that way gradually lessening the damaging effects coming from excessive use of tobacco.

THE DENTAL POSTER IDEA SHOULD BE ENCOURAGED

Dr. Alfred M. Schultz, at one time a valued employee of the State Board of Health in the Oral Hygiene Work of the Department of Medical Inspection of Schools, but now a practicing dentist at Greenville, North Carolina, sends us an excellent poster which was presented to him by one of his thirteen-year-old patients. The poster is an excellent symposium, in picture style, with very pertinent captions under each picture, representing the proposition of good teeth from babyhood to old age.

The author of the poster is Douglas Butner, who was in the seventh grade of the Greenville schools last spring. The boy heads his poster in the following pertinent language:

"This above all things, to thine own teeth be true,
Or it must follow as the night the day
They will sometime be false to you."

Under the pictures of very pretty babies in different positions, he says: "Teeth should be taken care of from babyhood." That is a fine illustrated sermon which takes a very little space to get across. Then he has a picture of a little child patient seated in the dentist's chair in an earnest
"THE ACCIDENT WAS UNAVOIDABLE"

On a fine morning early in June this year the newspapers of the State carried an item headed, as usual, "An Unavoidable Accident." This time the variation in the story was that two children instead of one had stepped out from behind an automobile which had just stopped in a public highway in the country at their home, and were run over and instantly killed by a passing car. Another variation to the usual story this time was that the driver of the car, after it was too late to save the children's lives, did his utmost to avoid the killing. He veered his machine and turned it over, running the risk of killing himself and his companion and actually destroying his own car.

So far, and considered from the standpoint of the accident itself, the calamity was unavoidable, as such accidents are usually considered. But the question recurs momentarily to every careful driver of an automobile, when out on the highways, is such an accident, after all, unavoidable? In our opinion such accidents are generally easy to prevent. The one thing necessary is for the driver of an automobile to always slow down his speed in passing any car or cars stopped in the road, whether he sees any children or other people about the car or not. A child may dash out without a second's warning but in time to be run over and killed. The careful driver will keep his eye and his mind absolutely on the business of driving the car and on the road ahead. He will not let his conversation distract his mind the least particle from the business at hand. Any driver of an automobile with eyesight sufficiently good to be permitted to drive a car should be able to see two or three hundred yards in advance, whether any children are around a car standing still in the road or near the road near which or by which or in which there are children. The careful driver, on seeing such a situation two or three hundred yards ahead, will habitually and automatically reduce his speed to a minimum. He may be one or two minutes later in getting to his destina-
tion than he otherwise would be; but sometimes one or two children may be living who otherwise would be dead.

It is no use to agitate for the passage of a law, as few of the important traffic laws are really obeyed, for example, passing the school bus while unloading children. Therefore, the only recourse to be had is for the sentiment to be created among the automobile driving public which will make even the careless driver know that it is the proper thing to do, the expected thing to do, and that if he does not reduce his speed, every time public opinion will be strongly against him. When such a practice becomes common, as it should become with all drivers, then when an accident happens and a child is killed the burden of proof of innocence and unavoidability will be placed squarely on the driver of the automobile.

It is no use to argue that parents should be responsible for inculcating into their children's minds the necessity for caution in crossing the road or street. The average parent already does this, but children are children. Child nature is the same now that it has been for ten thousand years, and will be the very same ten thousand years from now. Every child has a single track mind and when an idea enters its mind that idea has full possession of all the child's faculties for the moment. If a child decides to cross the road it is going to cross the road right then and it is not going to stop and debate the possibility of a motor car passing or not passing, provided the incentive to cross the road is strong enough in its mind to take entire possession of its faculties. Instinct alone is sufficient to cause a ten-day-old chick to duck under cover the moment a hawk is spotted in the atmosphere above it; but, fortunately or unfortunately for the world, children are not governed by instinct. So to our mind the greater responsibility must ever rest on the driver of an automobile in cases of accidents.

Now, on the other hand, on behalf of the driver of an automobile, all of us who occasionally drive a car often wonder to ourselves how lucky we are frequently in emerging from a near accident to children, without maiming or killing a child. There are accidents every day that are certainly unavoidable; there will continue to be accidents that are unavoidable in every sense of the word. But our contention is that this kind of accidents should be brought down to an irreducible minimum.

Our sympathy certainly goes out always to the driver of a death car, especially when such driver seems to exercise every reasonable care in the driving of his car and yet happens to a serious accident. The drivers of such cars (and any of us may become one of these any day) should have the sympathy of everybody, especially when they are conscientious and do all that they can humanly do to prevent such accidents.

But the moral of this story is that every driver of an automobile should reduce his speed when passing a car standing still in the road. The speed should be reduced sufficiently to enable him to go slowly and to give the standing car a wide enough berth to take care of any child who might want to act on the impulse to dash out and cross the road.

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**TYPHOID**

BY

D. E. FORD, M.D.

Every once in a while it becomes necessary to recall pictures of the unpleasant things in life. It is only by comparing the unpleasant things, the unhappinesses, that we can realize the joy of the happy things.

When you hear a man cursing the high costs of roads, ask him, when he pauses for breath, how he would like to have the old creek-bed and sand tracks of a few years ago. It shuts him up.

When we groan under the burden of costs of schools let's ask ourselves if we want the children back in the six-in-one temple of learning—the six grades and six months in the one room with one teacher.

So it is with typhoid fever. The young people don't know what typhoid is, never experienced having a relative ill or dying with it, and the older folks are forgetting. It is not good, it is not safe, to forget entirely.

Recall the picture for a few minutes.
Remember father, and perhaps sister at the same time when, in the midst of his work he was stricken with pain in his abdomen he was so weak that he couldn't get out of bed, had a chill and then a high fever, and then the days and nights of constant nursing. The doctor's visits once or twice, or three times a day. How father lay there only partly conscious, getting thinner and thinner, burning up with fever. How dry and sore was his tongue and mouth; how sunken his eyes; how the sores came on his back.

Remember how this nightmare of watching and anxiety dragged into weeks, until the fever began to go down. Then how his strength began to come back just a little every day and how his diet had to be watched and how he was propped up with pillows. It was a happy day when he could be lifted to the old rocker and allowed to hang his feet down for a few minutes.

Remember how the doctor's bills, the nursing bills, the bills at the store piled up before father got strength to work and earn again.

Then another in the family and one or two neighbors came down with typhoid. More weeks of suffering and anxiety, and graves in the church yard.

We haven't seen much typhoid fever lately—but it is possible that we shall.

We are cleaner now. We drink cleaner water, cleaner milk, and eat cleaner food. The city sewers take care of human waste. The privies in the country are no longer—not usually—open to the pigs, the hens and the flies to scatter filth to the kitchen.

And besides the more care we are taking about the things we put into our stomachs, thousands of us are protected against typhoid by the special vaccination.

Although we haven't seen much typhoid lately, don't let's forget it; don't throw precautions to the winds. There are still among us those who have had it and some of these harbor the typhoid germs. Such people are called "typhoid carriers," and are always a menace. The germs are to be found in their feces and urine, and even minute quantities of this getting into food or drink can spread the disease.

None of us are wholly safe—unless vaccinated. None of us lives wholly out of contact with others. Our food and drink may go through many hands. There are still sections not reached by city sewers. Servants cook our food and leave their thumb prints on our dinner dishes. They nurse and kiss the babies. Rain may wash filth into the country wells and pumps.

Typhoid vaccination is always available, without cost. The Health Department will give it to any that come any time.—New Bern Times.

PNEUMONIA AND THE WEATHER

Surgeon General Quoted As Believing Abnormal Cold Spring Caused Increased Pneumonia Cases

From the fish wives to the scientists people of all countries and climes, of all ages and races and times have been and are interested in the relation of the weather to sickness and health. As we all know, the weather is the one common topic of conversation that is always polite and proper in any society at any time. Mark Twain, of course, said that nothing was ever done about it, and that may constitute its chief value as a topic for conversation. The chronic sufferer from rheumatism will inevitably attribute an exacerbation of his symptoms to a change in the weather. Books have been written on the subject without reaching any definite conclusions which would be helpful to anybody.

The iconoclasts, the radicals, the cynics, or what in our opinion are the brilliant thinkers of scientific medicine hold for the most part that the weather is not as guilty as generally charged for producing various kinds of illness. Such authorities argue, and prove, that the white man can live in perfect health in the tropics when protected from the transmission of disease by insects, and by providing himself with pure water and a diet suitable for a tropical climate. They also prove that the
explorers in the Arctic Regions live with
perfect freedom from the respiratory dis-
ases commonly attributed to the weather
in temperate climates. They hold that the
freedom in the Arctics is due, of course,
to the absence of respiratory infection.
These people also go ahead to point out
that the two million or more American
troops in the trenches of France and Bel-
gium during the World War were sub-
jected to the most violent extremes of
weather, living days and weeks in muddy
trenches, with sanitation a negligible fac-
tor, and yet they were protected against ty-
phoid by the use of typhoid vaccine, and
they were no more subjected to respiratory
infections than the people at home living
in comfort during the same period.

However, the question is and will re-
main a controversial one for some time to
come in all probability. Therefore it is
interesting to note that the Surgeon Gen-
eral of the United States Public Health
Service sometime ago issued a statement
pointing out that the apparently abnormal
weather conditions which generally pre-

vailed throughout the country, in what
old-timers call "a very late spring" with
changing weather and abnormal cold for
the season, was the direct cause of a big in-
crease in number of deaths resulting from
influenza and pneumonia. The Surgeon
General stated in his Weekly Review on the
prevalence of communicable diseases for
the week ended May 19, 1928, that twelve
hundred and ninety-three people died from
influenza or pneumonia in certain cities of
the registration area during that week. For
the same week in 1927 these same cities,
embracing a population of thirty-one mil-
lion, reported only seven hundred and
eight deaths. It will be recalled that the
spring of 1927 was earlier and warmer and
drier throughout the most of the country.
According to the reasoning of the Surgeon
General the abnormally cold changeable
weather was responsible in 1928 in one
week for five hundred and eighty-five more
deaths than occurred in the same places
and at the same season of the year in 1927.

Anyhow, all we know about it is that
the spring has certainly been abnormally
late and cold in these parts.

PROTECTING BABY'S EYES DURING HIS
SUN BATH

BY
B. FRANKLIN ROYER, M.D., Sc.D., Medical Director of the National Committee
for the Prevention of Blindness

Sun baths for babies have become
popular. Their great value in the promo-
tion of healthful growth and in averting
or curing rickets and tuberculosis is well
recognized by the medical profession and
by the public in many places. Physicians
who specialize in giving scientific advice
on the rearing of children or in curing
babies and children of their ailments,
regularly recommend sun treatment and
advise about protecting the skin from
severe sunburn.

Many mothers and a good many wel-
fare workers become concerned about the
possible effects of sunlight on the interior
of the eyes of a baby receiving a sun bath.
In order to assemble the facts, risks or
fallacies concerning such exposure, and with
the hope of securing dependable sugges-
tions as to what advice might best be
given, the National Committee for the Pre-
vention of Blindness recently asked the
views of a number of eye specialists and
baby specialists.

It will be a relief to anxious mothers to
know that none of these eminent authori-
ties have ever seen the eyes of a baby per-
manently damaged by exposure to the sun
during a sun bath. This group of physi-
cians agree that it is not advisable that
the baby lie on its back exposed to the
mid-day sun in summer, and the pediatric
ians pretty generally advise that in sum-
mer the sun baths should be given only
in the morning and afternoon, approxi-
mately before ten and after three o'clock.
All of these medical specialists advise that
the same precautions be taken to prevent
too rapid burning of the skin and tissues
of the eyes, as with other parts of the body.

The muscular shutter at the front of the eye (the iris) and the little granules of dark pigment that give color to the eye and shut out excess light are sometimes not fully developed until a few weeks after birth. It would probably be wise, for the first month of life, to make some provision for protecting the eyes and eye tissues from a considerable exposure to the sun. The carriage hood suffices.

Usually, by the time the specialists are advising sun baths, the only eye precaution that need be taken during exposure is to have the child's feet directed away from the sun. While lying in this position morning or afternoon, the sun's rays will strike the top of baby's head and forehead, the overhanging brows and the eyelids, but the rays of sunlight will not pass directly through the pupil to the center of the retina, that part of the inside of the eyeball concerned with sharp vision. As a rule, the baby more than a month old or any young child will close the eyes if the light is too strong, or will indicate to the person charged with its care, by restlessness or by crying, if any eye discomfort or irritation is produced.

Generally speaking, the health value of the sunlight bath far outweighs any possible danger to eyes or vision. Just a little common sense is required in planning comfortable safeguards for baby's eyes during his sun baths.—From Child Welfare Magazine.

THE HELPING HAND

BY
MARGARET E. SANGSTER

Once, when I was a child, I was taken for a long walk. Taken with a group of older folk, who had stronger legs and greater endurance than I. And I was proud and happy that I had been chosen—I, a little child—to accompany them.

The walk was, as I have said, a long one. It covered country miles, instead of city blocks. It wound, via stony roads, through woodland and meadow, over hill and down dale. And, whereas the older folk walked (as they thought) slowly, I
went at a pace that, to me, was almost brutal in its rapidity. My short, chubby legs moved at a steady trot; my feet, in their flat sandals, padded along at a rate of speed that was, to me, a constant source of amazement. Oh, it seemed, to me, as though I were running a race.

Running a race... It wasn't very long before the blood began to pound in my ears—before the color rose in my round, childish cheeks. Before my breath began to rise, also, in my throat in choking little gasps. But—because I was proud of being a member of a grown-up walking party—I would not admit that I was weary. I would not admit that the length of the walk was telling upon me in a cruel manner.

There were two women—close friends, they were—upon this walk. Women who seemed goddess-like, to me, because of their long, tailored skirts and their pompadour hair. Both of the women were kindly souls; sweet persons. But one of them was a tactful lady, and one of them was not at all tactful.

It was the untactful one who first noticed my obvious discomfort.

"My goodness," she said swiftly, "we're wearing this youngster out! We're running her little legs off of her! Why, the child is ready to drop in her tracks. We shouldn't have brought her along with us. She's too small—far too small—to be able to cover the distance that we can cover!"

So said the tactless woman, and her voice, as she said it, was kind and gentle. But I, hearing her words, felt that I would never give in to my progressive weariness. That I would never admit to being fatigued. That I would walk until I dropped dead of exhaustion before I bowed to my weariness—and before I bowed to their superior strength.

The other woman—the one who was tactful—almost at the same moment as her friend, she, too, had noticed that I was weary. Almost at the same second she, too, had noticed that the way was growing very hard for my littleness to travel. That I was red and panting with the effort of the thing. But she did not say the words that flicked me on the raw; she did not speak in a way that rubbed against the grain of my childish pride. Oh, no—she was tactful as well as kind!

"Dear me," she said, suddenly, "I'm just completely worn out. I feel as if I can't go a step farther. Do you all mind stopping a bit, while I rest?"

There was a laughing chorus of assent. And also, of amazement, for the young woman was known to be a strong and steady walker. But despite the amazement the group paused and rested. And I, nestling close to the lady's tailored skirt—breathing normally and easily again—felt for just one fleeting second the pressure of her fingers upon my hair.

And, all through the remainder of the walk, the resting incident was repeated. So that, for me, the walk was made endurable. Without any sacrifice of my pride—and the pride of a sensitive child is an amazingly large thing! I was permitted to refresh myself. To catch up with the others. To finish the walk in a state of happiness, rather than a state of collapse.

A helping hand. That is what the tactful girl extended to me. And she extended it so graciously and gracefully that I did not, in the least, mind taking its help.

For, in the matter of helping hands, it is the manner of offering the hand that matters. For a helping hand, extended in an untactful way, becomes a humiliating and disagreeable necessity.

I have known people to go without food and clothing because their pride stood between them and the acceptance of it. A coat can be offered in two ways, you see—just as a rest, upon a walk, can be offered in two ways. You can say: "Your coat is shabby. Here, you can have this one of mine. And you'll look far better in it than you do in your own."

Or you can say:

"This coat of mine! I believe I've outgrown it. How I wish that I knew somebody that it would fit. It seems a shame that a good coat should be wasted. Do you suppose—that you could wear it? You're so much slimmer than I."

The first offer of the coat, you see, carries with it all the bitterness that goes with failure. The second offer puts the acceptance of the coat on the basis of a favor.

Sometimes I think that a helping hand is better unoffered—unless it can be offered with a lovely, tactful spirit. A need is almost better ignored than recognized—if recognition means that the need must be dragged out into the open—into the
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pitiless light of blunt and casual carelessness.

Oh, friend of mine! Always be ready to offer your hand—your helping hand—to the one who needs it. Be that person weak or old or hungry or swept with loneliness. Always be ready to lend aid, or assistance, or succor, or good cheer. But lend it, friends of mine, in the spirit of good comradeship—not in the spirit of obvious pity or the too necessary answer to a crying need.

For a helping hand—a helping spirit—when offered in the right way, the fine way, is an echoing of God's love and blessed charity.

But a helping hand, when offered clumsily, is an echo that has gone astray and been shattered and, perhaps, lost.—Christian Herald.

CANNED FOODS IN THE DAILY DIET
BY
E. V. McCollum, Ph.D., Sc.D.
Author of "The Newer Knowledge of Nutrition," "Food, Nutrition and Health," etc., Professor of Bio-chemistry, School of Hygiene and Public Health, Johns Hopkins University

During the last twenty years a remarkable advance has been made in our knowledge of quality in foods, and of the nutritive needs of the body. We know in terms of chemical substances what constitutes an adequate diet. We know, in the case of nearly all of our more common and important foods, and with a fair degree of accuracy, which nutrient principles are abundant or deficient in each. It has been found, as our studies have progressed, that most of our ordinary foods which constitute the staple articles of our diet are one-sided in composition. One will contain an excess of certain essential food elements, and lack a sufficient amount of others. It has become evident that we must not condemn any food-stuff because it is not in itself a complete food. If two foods, or several foods, each lacking in one or more indispensable food elements are combined in the proper proportions, one may furnish what another lacks, and so the mixture may be an excellent diet.

FOODS MUST BE VARIED

All this is by way of saying that a diet restricted to a few articles, and monotonous in character, is likely to be unsatisfactory for the maintenance of health. The keynote to successful nutrition is the proper combination of foods. There are many illustrations in human nutrition of people suffering from ill health as a result of subsisting during the winter months on a diet of poor quality. Such an experience was common a generation or two ago when the middle west was being settled. Ready money was very scarce and the great objective of the farmers on their new homesteads was to produce crops which could be sold so that farm equipment, fences and buildings could be purchased. Often they subsisted during the winter season principally on refined wheat flour bread, molasses, and fat pork. Those were the times when everyone felt ill in the spring. People thought their blood became impure during the winter season and that they needed blood purifiers and other spring medicines. They took the patent medicines offered them by numerous quacks, but at the same time as spring advanced they began to eat a better diet, for wild herbs were gathered for "greens," the hens began to lay eggs and the half starved cows, when they began to get green grass, produced milk. The better food supply was sufficient to make everyone feel better, but credit was always given to the medicine which had been swallowed, and so, year after year the same practice was repeated. What these pioneers needed was a more varied and better food supply during the winter months.

SCIENCE COMES TO THE RESCUE

Science has come to the assistance of mankind in providing ways by which foods may be preserved for months or even years, thus making it possible for people to have a greater variety in the
diet the whole year through. Canning, dehydration and cold storage are the principal means by which foods are preserved during the season of excess production, to be used mainly during the part of the year when otherwise we should be reduced to a simple and monotonous diet. A long list of fruits and green vegetables are most effectively preserved in a wholesome and attractive form, and for an almost indefinite period if necessary, through the process of canning. Several kinds of fish and meats, milk, etc., are also best put up in this form. No other method serves so well to conserve the delicate flavors of fruits and vegetables as does canning by modern processes.

In the early history of the canning industry, before methods were fully understood, there was considerable loss due to inadequate processes. Some canners used preservatives so that inferior products could be packed without danger of financial loss. Canned foods came to be looked upon with suspicion by many. That day is now past. There is no industry with which we are familiar which has been more alert in the study of the science underlying the packing of foods in airtight containers, so as to send to the consumer products of the highest quality than has the canning industry. The National Canners' Association has invested large sums in research in some of the greatest universities, and it has for years maintained a research laboratory which has been conducted on the highest ethical principles.

A CLEAN BILL OF HEALTH

Canned foods are safe to eat. There was a time when there was a tendency to incriminate canned foods if possible whenever anyone suffered from food poisoning. Today one rarely hears such an accusation, for it is now known that, in general, food poisoning is the result of improper handling of meats and a few other foods in the home or by persons who handle these foods before they reach the home. During the last twenty years close attention has been given by health officials to tracing out the sources of food poisoning, and as a result of these studies canned foods have received a remarkably clean bill of health. Canned foods are, generally speaking, the safest foods which come to our tables today, except the kinds of vegetables which are thoroughly cooked.

In recent years there has been much interest shown in the effect of the processes of canning on the destruction of the vitamins. The earlier studies in the vitamin field showed clearly that vitamin C, the antiscorbutic principle, is not found in dry foods such as the grains, dried fruits and vegetables, or in most foods which have been heated to the boiling point of water or even less. Even the pasteurization of milk, a process so necessary to safeguard health, destroys most of the vitamin C which it contains, although the heating is only carried to 145 degrees Fahrenheit. Cooking of fruits and vegetables, meats, etc., in the ordinary kitchen practice is known to destroy in great measure the scurvy-preventing properties of these foods. The natural inference was that canned foods would also be found to have lost this vitamin. Recent researches by Kohman and Eddy have brought to light some very interesting facts about the nutritive values of several canned foods. They have shown that there are certain features about the canning processes which make them far less destructive of vitamin C than ordinary cooking.

THAT IMPORTANT VITAMIN C

The major factor in destruction of vitamin C during cooking is oxidation. It has been shown that in canning, after a certain amount of preliminary destruction, subsequent heating has very little effect in the way of further destruction. In the canning of tomatoes, Kohman and Eddy found no destruction of vitamin C, or at least of too small magnitude to be demonstrated by animal experiments. With apples and peaches it was shown that after a preliminary treatment of the fruit in which it was immersed in water until after the respiration processes had used up the oxygen dissolved in the juices, canning could proceed with no demonstrable loss of vitamin C. Lemon juice has been concentrated and heated to as high a temperature as is employed in processing canned foods during several hours, without destroying any demonstrable amount of the vitamin.

In commercial canning it is customary to place the cans filled with fruit and syrup in an exhaust box, and to gradually warm them to a temperature at which the oxidizing ferments cease to function. As the fruits are warmed, the rate at which oxygen is used up in tissue respiration is
greatly accelerated, and the dissolved oxygen is quickly used up. It has been demonstrated that after this point is reached the canning process can be carried out without further destruction of the antiscorbutic vitamin C.

The vitamin C content of commercially canned fruits and vegetables appears, therefore, to be much greater than that of fresh foods which are cooked in the usual manner, viz., by promptly heating to cooking temperatures without the preliminary treatment which would cause the disappearance of dissolved oxygen in their substance. By ordinary cooking this vitamin is essentially all destroyed, yet by the special treatment previous to strong heat treatment the destruction may be avoided.

What we have said regarding ordinary cooking of foods probably also applies to foods which are home canned, although no studies have as yet been conducted which would show the extent to which vitamin C is destroyed in home canning. The heat is in general probably applied too rapidly to permit of saving the vitamin from destruction.

RESULTS OF NUTRITIONAL RESEARCH

Canned foods have steadily grown in favor with the consuming public for many years, mainly because of the excellence of the state of preservation and the attractiveness of their flavors and appearance. In no branch of the food industry has the results of scientific investigation been more effectively applied than in the canning industry. This is the reason why canned foods are as safe as any foods we eat, and safer than a number of common foods which are purchased fresh but are handled in the home in a manner which makes it possible that illness may arise from eating them when stale. Now comes the scientific investigator who shows us the fallacy of hasty reasoning from the analogy with ordinary cooked foods, which have lost through destruction, most or all of their vitamin C, to the conclusion that canned foods, heated even more thoroughly, have also lost their vitamin C content. There are special features in the canning process which preserves a nutrient principle which ordinary cooking destroys.

As for the other vitamins in canned foods, it may be said with confidence from data available, that these are not destroyed in canning to an appreciable extent. The high favor of canned foods among consumers everywhere is justified by the results of nutritional research.

TILLETT ON INSOMNIA

We are publishing elsewhere in this issue a communication from Mr. Charles W. Tillett, an eminent Charlotte lawyer, to the News and Observer and recently published in that paper. Mr. Tillett writes very interestingly on the subject of insomnia, setting forth some of his personal experiences. We are publishing the article because it is the subject of frequent inquiry from people about over the State and also because Mr. Tillett states point blank that "about the most hurtful heresy in all health-propaganda is this: 'You must have at least eight hours sleep every night.'"

Come to think of it, it is true that most writers on health subjects are guilty of Mr. Tillett's charge, in that most of us, parrot like, insist on advising eight hours sleep every night. This writer for one does not remember ever emphasizing the point or even mentioning it very much for adults, although we may have been guilty; but we have insistently urged the parents of babies and very young children to make every effort to guarantee at least ten or twelve hours and more sleep for infants and growing children. For adults, as a matter of fact, the amount of sleep necessary to enjoy good health is an individual requirement. In one case a person might be miserable and physically unfit for any ordinary daily routine duties who enjoys less than nine or ten hours sleep out of the twenty-four, whereas another person in apparently similar circumstances might be perfectly happy and physically in good shape on six hours sleep a day out of the twenty-four.

Mr. Tillett very correctly, in our opinion, goes to the bottom of the matter when he states that the chief trouble with insomnia arises more from the terror and worry on the part of the victim upon being unable to gain the amount of sleep thought necessary by a majority of so-called health authorities, physicians, and the public generally. Mr. Tillett's remedy: that is, getting up out of bed and reading or studying or otherwise amusing one's self is a
happy solution, unfortunately, for a very limited number of people, limited because the average family does not have the necessary bedroom and housing facilities to enable one member of the family to get up and piddle around the house without arousing the rest of the family, and therefore bringing on insomnia or general irritability and trouble for the whole outfit.

Since writing the foregoing, the Science News-Letter has published a very interesting article describing the experiments being made at Colgate University by Dr. Donald A. Laird, Director of the Colgate Psychological Laboratory. At this stage of the experiment Doctor Laird is able to conclude that the average person does not get a sufficient amount of sleep. Thus the almost universal practice of health writers in urging a minimum of eight hours sleep every night, which Mr. Tillet's so caustically condemns, would seem to be justified by Doctor Laird's experiments at Colgate.

We are publishing in this issue a reproduction of Dr. Laird's article in Science News-Letter. The title of the article is "Average Sleep Ratio Ten-to-Five Years." Be sure and look up the Laird article and read it, as well as the Tillet letter. You will find them interesting.

One of the things you want to note particularly is the fun Doctor Laird has with the joke about Thomas A. Edison requiring such a small amount of sleep.

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**EIGHT HOURS SLEEP NOT NECESSARY**

**BY CHARLES W. TILLETT**

To the Editor:

Among the "headliners" in one of the Charlotte papers last Sunday appeared a veteran hotel man, W. T. Lucas, of Charlotte, who was featured as being among the select few who are deemed worthy to be classed with Thomas Edison as having "conquered sleep" to such an extent that four hours or less of slumber per night suffice for their actual needs.

Having for a long time contended that I myself am pre-eminent the professional "insomniac" of the Old North State, I am minded to contribute my mite to a discussion of "sleeplessness."

But first let me say, with emphasis, that I do not wish in any degree to detract from the felicity of sleep, "Nature's sweet restorer, balmy sleep." I join with fervor in the benediction pronounced by that immortal philosopher, Sancho Panza: "God bless the man who first invented sleep!"

I am not writing this for the eyes of the "sound-sleepers," but for the comfort of those who are accustomed to spend many weary sleepless nights.

About the most hurtful heresy in all health-propaganda is this: "You must have at least eight hours sleep every night." I have no doubt that there are tens of thousands of people in North Carolina who suffer distress every day in the year because on the previous night each of them has gotten less than the regulation eight hours of sleep.

I have demonstrated to myself through a bitter experience that, while it is no doubt helpful in many ways to have a long period of slumber every night, nature does not ordinarily require eight hours, nor indeed half that number as a prerequisite of health and happiness.

I have also demonstrated to myself that it is not the actual loss of sleep that is the real cause of the distress, and oftentimes ill health, that follows insomnia, but it is worrying over not sleeping that brings about these frightful results.

In the advertisements of patent medicines, heralded as "sleep-producers," you have seen the picture of a man sitting up in bed at the hour of 2 a.m., looking for the world like a raving maniac, all because he could not sleep. That no doubt is a true picture of what is frequently happening every night in Greensboro and elsewhere, but I am here to say that the chances are 99 in 100 that the cause of his distress is a figment of the brain. The real cause is not the actual loss of sleep, but it is because the man has worked himself into a frenzy of despair over not being able to sleep.

It is not pleasant for me to draw back the curtain from the inmost recesses of my past experience, and yet I have long had
a feeling that I owe to my fellow-sufferers among the "insomniasts" a duty to reveal the blessed and comforting relief that has come to me out of my bitter experience.

This preliminary statement: I have consulted physicians from Vienna, Austria, on the one side, to Los Angeles, California, on the other side. There isn't a mother's son of them that can give any very useful advice to the sleepless as to how they may obtain sleep, except, of course, by the use of harmful drugs, against which every wise doctor will strongly protest. In my humble opinion, instead of giving a wakeful patient the stereotyped advice, "Get plenty of sleep," it would be far better for the doctor to say: "Don't worry if you can't sleep." But here is my story:

Twenty-five years ago I suffereded a breakdown almost unparalleled. I had a most typical case of nervous prostration, and endured tortures unspeakable. I went down to the "gates of hell," I opened the gate and walked around in a region full of the horrors of fire and brimstone. During that period, lasting several months, I did not sleep exceeding two hours in any night, oftener not exceeding one hour, and I never got a "wink of sleep" during the daytime.

I was possessed at that time with the heresy that I must have eight hours of sleep every night and, as I realize now, the chief cause of my distressing condition was the thought that this lack of sleep was driving me mad.

During that period, while I was wandering over the world in search of my lost health, I chanced to visit my brother, Doctor Tillet, of Vanderbilt University. He was himself a confirmed insomniaist, but he had discovered the secret that I am here trying to reveal to my readers. He impressed upon me what he had learned by experience, viz: that, if I would cease worrying over the fact that I could not sleep, the evil results following from the loss of sleep would in large measure disappear.

With a resolution fixed and determined, I proceeded to cast out this demon—worry over sleeplessness. Heaven helped me. It is a long story, but the epiteome of it all is this: I finally reached a state of mind in which I stopped worrying over the loss of sleep, and with the elimination of that worry, lo! my health began slowly to return.

I have found by actual experience that I could get along on three hours sleep in 24; could do well on four; five was fine; six was extra fine, though I rarely ever obtained that much sleep.

For a septuagenarian I have remarkable health (touch wood!), and my life is filled with joy and zest. I frequently get only three hours of sleep in 24. The failure to get more sleep does not phase me.

If I wake during the night and find that sleep does not return in a few minutes, I adopt the highly favored custom of counting the sheep jumping over the fence. If that fails, I turn on the electric light at the head of my bed and read until I get drowsy; or, quite frequently, I go into the sitting room and compose some literary effusion.

Right here permit me to answer this inquiry: "How do you keep up your law practice and at the same time do all this writing for the press?" To this I make reply: "I write for the press as a diversion, usually occupying for that purpose the hours between 2 a.m. and daybreak."
What you are here reading was written during that period.

Moral: Nature will give you all the sleep you are obliged to have. Therefore, don't worry over the failure to get your self-appointed quota of sleep, and, if you follow this advice, you will be healthy and happy.

There is a "beatitude of insomnia" to which, unfortunately, I have never attained. It comes from the consolation of our holy religion, that enables saintly souls to make the waking hours of the night the best time of all the 24 for communion with God. All such have learned the blessed truth so beautifully expressed by the poet:

"He giveth His beloved sleep.
But He Himself doth watch with them that wake."

—News and Observer.

AVERAGE SLEEP RATION TWENTY-FIVE YEARS

BY

DONALD A LAIRD

Rip Van Winkle slept for twenty years. This record is surpassed by the average man who lives out his allotted three score years and ten, for the seventy-year-old person has spent more than twenty-five years in sleep.

Sleep overtakes an individual at the close of his day's work, and after about eight hours it releases its hold. Beyond this the average person and most scientists know little. Scientific workers who have devoted their time to intensive studies of sleep number scarcely a dozen since the beginning of the scientific era; while in contrast there are at the present moment more than 100 scientists working on how to make the face more attractive by surgical procedures.

At the Psychological Laboratory of Colgate University we have been trying to find out all we can about sleep, especially what is practical and best.

Beginning three years ago at Colgate, volunteers slept in quarters that the fraternity houses loaned us for temporary use. The investigation has grown and expanded from that beginning, until next year an entire ten-room house will be used for the sleep laboratory.

Since the field has been practically untouched it has been necessary to plan and construct much apparatus for studying what goes on in people while they sleep, and how sleep can be made most restful.

Some of the apparatus is constructed so that time is measured not in merely seconds or tenths of seconds, but in thousandths of seconds. In measuring muscular relaxation, which appears to be of paramount importance in restful sleep, we have had to devise other instruments which will tell us the effect a single twitch of a finger has upon the total muscular relaxation of the sleeper's body.

We have had to develop special methods to measure the exact amount of bodily energy expended when doing work after sleep of various kinds and amounts.

The greatest difficulty in the experimental work is in the loss of sleep it demands from those being experimented upon and those doing the experimenting. It is somewhat of a lark to stay up unusually late one night. But when the experimenters request that you get along with six hours of sleep every night for a month in place of the eight you have been accustomed to having, the fun disappears the second night about ten o'clock. Nevertheless we were able to get some students to make this sleep sacrifice without credit or pay three years ago.

We have also had our "human guinea pigs" sleep with a gas mask glued to their faces for a half year of nights at a time so that we could make chemical analyses of the expired air the whole night long. In this particular case the more severe hardship fell upon those making the experiments since they had to keep wide awake all night to make accurate determinations of the energy expenditure of those enjoying sleep. Two subjects sleeping peacefully with gas masks will keep ten others awake making the chemical analyses of exhaled breath collected through the masks.
Other cruel and inhuman practices are essential in order to discover the what and why of sleep. Imagine yourself, for instance, being awakened at four o'clock this morning and put through strenuous tests for an hour and a half on this incomplete amount of sleep; tests which range from how much electricity is needed to shock you, to lifting weights with your middle finger every second until you are exhausted and unable to lift even an ounce.

Then further imagine you are awakened for the same work at three o'clock two mornings later, then at two o'clock, and so on until all the hours of your sleeping period have been tabulated and charted. It takes considerable determination to stick through a job like that when you also have your regular work to do during the daytime when sensible people work exclusively. But you can never fully appreciate the complete pleasure of a long Sunday morning sleep until you have been through a semester or two of such work.

It comes to many people as somewhat of a surprise to find that another hardship is changing from a medium soft, comfortable bed to a hard and sagging bed. This demands more will power in some cases than to cut down on one's hours of sleep. But sleeping in uncomfortable beds is just another of the cruel and inhuman things we require of our subjects from time to time, although there are thousands of people complacently sleeping on beds far from comfortable or right and blissfully ignorant of the fact. Since our boys have slept around on different combinations of mattresses and springs in the laboratory they have found that differences in the restfulness of two beds may be as marked as changes in the weather.

The best bed combination to sleep upon to obtain most restfulness seems to be a medium soft bed with a large number of vertically placed coil springs. A bed which says keeps muscles under tension and does not allow for a desirable amount of restfulness.

We were somewhat astonished to find that a bed can be too soft, especially for the person of above average weight. In some of the tests seven hours sleep on some beds gave a recovery equal to eight hours on other beds. The type of spring and mattress found in practically all college dormitories gives a poor sleeping combination. A praiseworthy charity to undertake on a national scale is to replace these since a poorly rested person is the weak-willed person.

We have found that the old idea that sleep is deepest the first few hours expresses the truth. It does not matter whether the first two or three hours come before midnight or after midnight. More noise is necessary to awaken a person during the first hours of his sleep. If he is awakened it is harder for him to keep awake. There is intense bodily metabolism due to the rebuilding activities taking place. And recovery of ability to do strenuous tests appears more marked after the first two or three hours sleep than during the following six hours.

It is probably fortunate that we cannot do away with the first two hours sleep. Otherwise some people trying to cheat nature might do as the Irishman who enlisted in the army and found that his blanket was so short that when it covered his feet it did not reach to his chin. So he cut six inches from the bottom of his blanket and sewed it to the top.

We have also found that if you cut down on sleep you will probably have to pay a price for it. After the loss of even two hours sleep we have found that difficult mental work is adversely affected, and almost invariably more calories of bodily energy are required to do the work than were needed when the regular amount of sleep had been maintained.

Napoleon is sometimes cited as having got along on unusually small amounts of sleep. But we must remember he was a broken man at the age most men are in their prime. Regarding the small amount of sleep Thomas A. Edison is said to take, Harvey Firestone says he has a good laugh every time he hears the story. Edison has always taken innumerable cat-naps during the day and although his night sleep may have been short, his total daily amount was that of the average man.

There are indications that the average person is not getting enough sleep to fill nature's requirements. This is evidenced by the need of alarm clocks to get many people started on the day's work, and by the widespread popularity of getting caught up on sleep on Sunday mornings.

Many changes unknown to the individual take place during sleep. When a noisy taxicab passes a sleeper's window, for instance, there is a change in his blood pressure caused by the noise, although the sleeper is not awakened at the time. Be-
tween four and six o'clock in the morning, when sleep is light, these disturbances which we do not consciously sense are responsible for the predicament of many persons who wake and toss about restlessly. The crash of a garbage can onto a paved alley or the passing of the milkman have caused many worries about “what’s the matter with me that I always wake up at five o’clock lately?”

With each question about sleep we have answered, the answer has raised a dozen new questions which are important and which can be answered in turn only by experiments. We have discovered, for instance, that during the first two hours of sleep there are some rather intense body rebuilding activities taking place. What these are we do not know, and moreover, this is a question to be answered by the chemist. Chemists working in the United States Public Health Service and at the University of Chicago have not found what this chemical rebuilding is.

A race which does without sleep, however, is well on the road to a race of mentally disordered people, probably within the first generation, for sleep is not merely a great restorative, but its dreams are often a safety valve for sanity. So when such a pill appears, if ever, I would warn you still to take no substitute for real sleep, lots of it, under the best conditions, and dream pleasantly to your heart’s content.—Science News-Letter.

**RUNNING WATER IS NOT ALWAYS PURE**

With a persistence which entitles it front rank among hygienic fallacies, the idea has long clung to the popular mind that running water, if not always pure, will at least purify itself “in a dozen miles or so.” Disastrous consequences following too literal application of this erroneous principle to the selection of municipal water supplies has prompted numerous scientific investigations both here and abroad. A critical review of these researches with a bibliography of over 170 references is given in Part I of a publication entitled “The Oxygen Demand of Polluted Waters” recently issued by the United States Public Health Service, as Public Health Bulletin No. 173. Part II of the same bulletin is devoted to the presentation of an extensive series of experiments conducted in the Stream Pollution laboratories of the Public Health Service.

Briefly, it may be stated that a water contaminated with the organic matters found in sewage and in various industrial wastes does gradually rid itself of such pollution, if allowed free access to air. Early studies of a plausible theory based on the direct action of oxygen on the organic matters, and subsequent research extending over the past fifty years has revealed that the self-purification of streams is essentially a biological process. In this sense, the oxygen contained in aerated or running water does not operate as a sterilizing agent, as once believed, but rather as a neutralizing or deodorizing agent for some of the gases resulting from the bacterial decomposition of the organic matters. Dissolved oxygen is also required for the maintenance of fish life. While thus relegated to a secondary role, the amount and rate of disappearance of the oxygen which is contained in a given water nevertheless serves as an excellent indicator, first of the threatened disappearance of fish life and, with increasing pollution, as a warning of impending nuisance conditions. With the understanding that a bacteriological examination is a much better index of wholesomeness or fitness for drinking purposes, it has accordingly become customary to express the pollution of a given water in terms of its demand for dissolved oxygen when references is made to the threatened disappearance of fish life or to the approach of nuisance conditions.

On the basis of extensive series of observations presented in Part II of Public Health Bulletin No. 173, it has become possible to give numerical expression to the actual rate at which the oxygen demand of a water is satisfied. The outstanding feature of this section of the report is that the rate at which the organic matter is oxidized, while strikingly uniform with a variety of waters, is exceedingly slow. Thus, in a given experiment with Ohio River water collected at Cincinnati, oxygen continued to be used up for fully 300 days and bacteria of intestinal varieties persisted for almost that length of time. Even in the absence of intervening pollution, it would be necessary to allow for a stream flow of several hundred miles before a water, once polluted, could regain its pristine purity. Irrespective of distance from the
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nearest upstream point of known pollution, it may be safely stated that no river in the United States can now be regarded as hygienically safe without treatment. Conversely, the possibility that water polluted with sewage might be fully purified by flowing for "a dozen miles or so" becomes too remote for serious consideration.

From a more technical angle, the bulletin under discussion includes data relating to the rate of deoxygenation of polluted river water from which the velocity constants and the temperature coefficient of the underlying biochemical reaction have been computed by the least-squares procedure. The orderliness with which the reaction proceeds compares favorably with that of the purely chemical reactions thus far reported in the literature. This constancy of the rate of deoxygenation of polluted waters is also borne out when the oxygen demand values obtained at various cities are referred to a per capita basis.

For the average community, the amount of oxygen required each day for the stabilization of its carbonaceous waters will be in the neighborhood of 100 grams (0.22 pound) per capita. The findings in this respect are of especial significance, inasmuch as they indicate the possibility of making fair estimates of the ability of a stream to withstand pollution without giving rise to offensive conditions by a calculation based solely on the contributing population and the volume of stream flow, and without resort to expensive laboratory investigations. Similarly, it would appear possible to estimate the minimum requirements in regard to the treatment of community wastes for the purpose of relieving existing nuisance conditions. The per capita oxygen demand figure also enters into several other sanitary engineering computations.

The bulletin concludes with four appendices dealing with analytical and statistical methods of procedure.—U. S. Public Health Service.

NEW RECIPES

MABEL E. HOYT

VEGETABLE CHOWDER

1 cup chopped carrots
1 cup chopped turnips
1 cup chopped celery
3 cups diced potatoes
8 cups water
3/4 cup butter
1/2 cup diced onions
Salt

Mix together all of the vegetables except the potatoes and simmer in the butter ten minutes. Add the potatoes and cook in a covered pan for five minutes, then add the water and cook until the vegetables are tender and can be forced through a colander. To the puree add the seasoning and the parsley. Reheat and serve.

ASPARAGUS AND OLIVES AU GRATIN

1 small can asparagus
1 hard-cooked egg
1/2 cup grated cheese

Place a layer of cooked asparagus in a greased loaf pan. Sprinkle with the olives stoned and cut crosswise, and the egg sliced thin. Cover with the white sauce and sprinkle with buttered crumbs and grated cheese. Bake until crumbs are brown.

ASPARAGUS RAREBIT

1 tablespoon butter
1 tablespoon flour
1/2 tablespoon salt
Cooked asparagus
1/2 cup milk
1 cup grated cheese
1 tablespoon tomato puree

Whole wheat toast

Melt the butter, add the flour and mix well. Add the milk and cook in double boiler until thick, stirring constantly, add the cheese, the tomato puree and the salt. Stir until the cheese has melted. Serve on rectangles of fresh toast with hot as-
paragis tips cut in short lengths. Garnish with parsley.

CREAMED POTATOES AND CELERY
2 cups diced steamed potatoes
1 cup chopped celery
2 cups milk
4 tablespoons melted butter
4 tablespoons flour
1 teaspoon salt
1 tablespoon grated cheese

Mix the diced potatoes and the celery together. Make a cream sauce by blending the flour, butter and salt, and adding the warm milk slowly. Bring to a boil and pour over the diced potatoes and celery. Place all in a baking dish and sprinkle the grated cheese over the top. Bake until nicely browned.

PINEAPPLE, STRAWBERRY AND CELERY SALAD
1 fresh pineapple
¾ cup pecan meats
1 cup diced celery
1 cup cut strawberries
Cream mayonnaise

Peel and dice the pineapple and the celery. Select ripe strawberries and cut in quarters. Mix all together and use enough mayonnaise to moisten well. Serve on a salad plate garnished with head lettuce.

TOMATO AND PINEAPPLE SALAD
6 tomatoes
1 cup diced pineapple
1 cup mayonnaise
1 cup diced celery

Select smooth, uniform, medium-sized tomatoes. Cut off the top and scoop out the center, making a cup. Mix the diced celery, the pineapple, and dice tomatoes with the mayonnaise. Fill the tomato cups with the mixture, and serve on a lettuce leaf.

FRUIT SALAD DRESSING
¼ cup pineapple juice
¼ cup orange juice
¼ cup lemon juice
¼ cup water
1 teaspoon salt
1 tablespoon cornstarch
¼ cup sugar
2 eggs
2 tablespoons butter

Heat the liquids to the boiling point, and add slowly to the sifted dry ingredients, mixed with the butter, stirring constantly to prevent lumping. Cook in a double boiler fifteen minutes. Pour the cooked mixture slowly into the slightly beaten eggs, stirring all the time. Cook one minute. Serve cold, adding whipped cream.

GRAHAM DATE BREAD
1 cup brown sugar
2 cups sour milk
1 teaspoon salt
1 teaspoon soda
1 cup graham flour
1 cup white flour
2 teaspoons baking powder
1 cup chopped dates

Add the milk to the sugar, stir until dissolved, add the sifted dry ingredients and lastly the chopped dates. Pour in a well-greased bread pan and let rise twenty minutes. Bake in a moderate oven one hour.

NUT BREAD
1½ cups whole wheat flour
1½ cups white flour
½ cup sugar
6 teaspoons baking powder
1 teaspoon salt
1 cup chopped nuts
1 egg
1 cup sweet milk

Add the sifted dry ingredients to the whole wheat flour. Add the nuts, the eggs and the milk. Mix into a smooth dough. Turn into a well-greased loaf pan and let stand fifteen minutes. Bake in a moderate oven forty-five minutes.

SMALL FANCY CAKES
½ cup butter
2-3 cup milk
2 cups flour
3 teaspoons baking powder
1 cup granulated sugar
1 teaspoon vanilla
¼ teaspoon salt
3 egg whites

Cream the butter and the sugar together until light. Add the milk slowly and beat constantly. Add the flavoring, then stir in the sifted dry ingredients. Fold in the beaten egg whites. Fill small muffin tins or pleated paper baking cups about three-fourths full and bake in a hot oven from ten to fifteen minutes. Cover with any icing desired.—From *Good Health*, Battle Creek, Mich.
SUMMER WEATHER IN NORTH CAROLINA

We have been asked not infrequently during the past several years by people residing in the North and West for a report on the climate of North Carolina, especially in the summer time. To people living in such sections of the country and whose chief source of information concerning this State has been obtained from some of the “atlases” and “encyclopedias” which state that North Carolina has a semi-tropical climate and so on, it is almost impossible for them to formulate a correct opinion about the possibility of living in this State in anything approaching comfort at any time during the summer months. We have from time to time, in answering such correspondence, especially where the queries have been pointed as to the number of deaths from sunstroke and excessive heat and so on, referred to the records published in the daily papers throughout the whole country as presenting reliable evidence that hot weather is very seldom depressive for any very great length of time in this latitude. On account of the fact that the editor has presented a clear illustration of this point, we take pleasure in quoting below an editorial recently published in the Raleigh Times under the title of “Touch of Summer in South Free of Lethal Quality.”

“...In the first touch of anything like real summer weather of this remarkably lenient season, North Carolinians have been hot but peppy, if you get what we mean.

“That is, the bath-tub has been a haven to be rushed for as the day’s work ended, there has been somewhat of that sticking of the clothes and crawling of the skin that go along with heat—but that has been all.

“There has not been that extreme of lethargy, that despair of comfort, that eternity of time and weariness of the flesh distinguishing weather that is really hot.

“There have been breezes, and the night has come with cool fingers, and the dawn broken sweet and fresh.

“Elsewhere?

“In the cities of the North the heat has settled like a lethal blanket. One day’s deaths are numbered as follows:

“New York City, 7; New Jersey, 10; Connecticut, 3; Massachusetts, 2; New Hampshire, 1; Pennsylvania, 9; Up-State New York, 12; North Carolina, 1.

“Even as told by the thermometer, the South has not been as hot as the northern portion of the East.

“As told in effects on life and strength and health, the difference has been much more sharply marked.

“Yet it is still a generally accepted theory that the South, because it is warmer in winter, must be hotter in summer.

“The fact is that, comparatively, the distinguishing mark of Southern weather is its freedom from extremes.”

THE NEW GOD, COMFORT

We all enjoy prosperity. We are constantly seeking to increase and perpetuate prosperity, but in so doing we are promoting physical and moral decay and race degeneracy.

Prosperity is spoiling us. The spur of want, the discipline of hardship, are the natural stimuli to sound development and individual and racial progress. The lassitude that prosperity engenders leads to fatty degeneration of heart, brain and muscles, and lowering of standards of conduct.

Nicholas Murray Butler, President of Columbia University, who sometimes says things with which we wholly disagree, he tells us that “the reason why Christianity no longer makes an appeal to men is that they are too prosperous.” And he aptly adds, “They have discovered a new god, comfort, and they are so concerned with worshipping him that they have no time for the God of their fathers.

“The modern American ideal of life seems to be to put a comfortable baby into a comfortable crib, to be watched over by a comfortable nurse until it is able to go to a comfortable school. Then to send it to a comfortable college where comfortable teachers see that it does not work too much or too hard. Then to find its way into a comfortable profession; to marry a wife with a comfortable fortune; to spend twenty or thirty comfortable years; and finally to pass through a comfortable opiate to a comfortable grave.”—Good Health.
AND BE SURE THAT THEIR ROOMS ARE PROPERLY VENTILATED AT NIGHT—
HEALTHFUL SPORTS

There is nothing quite so refreshing on a hot summer day as a plunge into a pool of sparkling water. Nor is there any sport more conducive to health than swimming and boating. The illustration here is from a popular summer camp in Western North Carolina.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may interested.

Adenoids and Tonsils | German Measles | Sanitary Privies
Cancer | Hookworm Disease | Scarlet Fever
Cataract | Infantile Paralysis | Smallpox
Care of the Baby | Indigestion | Teeth
Constipation | Influenza | Tuberculosis
Colds | Malaria | Tuberculosis Placards
Clean-up Placards | Measles | Typhoid Fever
Chicken Pox | Pelagra | Typhoid Placards
Diphtheria | Public Health Laws | Venereal Diseases
Don't Spit Placards | Prenatal Care | Water Supplies
Eyes | | Whooping Cough
Files | | |

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send your name to the State Board of Health, and give an approximate date of expected confinement.

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A HOSPITAL FOR PEOPLE OF MODERATE MEANS

The Women's Medical Association of New York City is undertaking, with prospects of immediate success, the building of a big hospital in that city to be known as the Gotham Hospital, the principal purpose of which is to offer modern hospital care to middle class people, or people of moderate means. If the State of North Carolina needs anything in this world more than just such enterprises, we would like to take a look at it.

It is proposed to have two hundred rooms in this new hospital, with an endowment of three million dollars, which is being secured by popular subscription. The largest ward is to have only six beds, only a little space is assigned to ward room. The hospital is to be so designed that one special nurse can look after two or three patients at the same time. The nurses are to be employed on a salary for their whole time. There is to be no training school for nurses. Thus the very best class of nursing will be offered to the patients in this hospital, and by the group arrangement satisfactory nursing service can be had at about one-half of the present cost in the average hospital for special nursing service. Any patient requiring special nurse service and not being able to pay for it will be allowed to pay what he can, and the balance will be made up to the hospital from the endowment fund.

In that hospital the great middle class people, to which most of us belong, such, for instance, as ministers, teachers, farmers, stenographers, clerks, and so on, who are able to pay a physician or surgeon a moderate fee but are nearly always unable to pay the full standard fee required for best service, and yet who abhor being assigned to wards as paupers, will, in that hospital, have the opportunity of paying to the hospital as much as they conscientiously can pay, and the hospital will, therefore, turn over such fee to the doctor or surgeon treating such patient, the hospital serving as the medium of contact, financially as well as otherwise, between the patient and the doctor. Naturally under the present arrangements in places like New York such patients would have to go to the wards. Their medical service could be free, of course, but the doctor or surgeon treating the case, instead of receiving a moderate fee through the channels of the hospital, would receive nothing. And yet the doctor or surgeon, under this arrangement, would not be put in a position of reducing a standard fee, which, by all means, he should have everywhere when the patient is fully able to pay for such fee.

A very conservative estimate, based on carefully gathered statistics, seems to indicate that at any given moment there are at least two persons in every one hundred of the population who are sick. Of this number not less than ten per cent of those sick require hospital care. Let us apply these figures to the average North Carolina county of forty thousand people. In such a county there cannot be less than eight hundred persons at any time sick. Of that number eighty of them are needing hospital treatment. Now we can make a safe estimate of our own, which is certainly conservative, and that is that fifty per cent of these people are not able to pay the standard fees for first class private treatment offered by good hospitals, competent surgeons, and physicians in North Carolina any more than they could in New York.

In our own opinion the New York City Women's Medical Association has started a program this time that will be abundantly successful, and one which will be far-
reaching in its application to practically all other sections of the country. Any system or plan of hospitalization that is not designed to give the great body of middle class, self-respecting people an opportu-

nity to help themselves within their financial reach to medical, surgical, and hospital service cannot succeed in meeting the requirement of modern civilization and humanitarianism, to say the least.

**MILK-BORNE EPIDEMICS**

As these lines are written, the newspapers in New England are reporting a milk-borne epidemic of septic sore throat present in Lee, Massachusetts. Lee is a town of about forty-five hundred inhabitants, and it is said that twenty-six people have died and about six hundred persons are either sick or have been sick from this disease.

The specter of epidemics, not only of septic sore throat, but of typhoid fever, diphtheria, scarlet fever, dysentery, and even tuberculosis, is ever present in the minds of health officers and others who stand as guards over the public health of this State. Any of the aforementioned diseases may be carried by infected milk.

The only sure and absolute protection the populace of the towns and cities have against such occurrences is, of course, the pasteurization of milk. Next to the thorough and complete and efficient pasteurization of all public milk supplies, the next most important thing is to have all raw milk, which is sold to the public, produced and put on the market under the strictest sanitary regulations. New York State has in its sanitary code a provision making this legal and possible of execution by every local health officer in that state. North Carolina does not have such regulations on the subject, but many of the cities and towns of the State have adopted what has been termed "The Standard Milk Ordinance," promulgated by the United State Public Health Service. This ordinance is at present on the books of many local cities and towns in North Carolina and is protective if scrupulously and intelligently enforced.

It is said that the Massachusetts epidemic was started by a worker in a single dairy who was sick a few days with septic sore throat, who did not consult a physician, and who continued to perform part of his duties in the production and handling of milk at the dairy.

Milk is a valuable food for adult as well as child. It is practically an essential in the diet of every family in some form or other, raw or canned or in the cooking. In addition to this universal necessity for milk in the diet, it is one of the easiest of vehicles in which germ life can be cultivated and transmitted. It is almost impossible for any milk ordinance to be too strict when it comes right down to insuring protection against epidemic disease.

The question for every county physician and health officer in this State to answer for himself is, "What is the possibility of a milk-borne epidemic in my jurisdiction?" If such authority can answer conscientiously that the possibility is reduced to a minimum, the people whose public health he is safeguarding may be said to be fortunate.

**CANNED FOODS SAFE**

This article is being written in mid-summer. The writer has no idea when it will be published. But it makes little difference; canning and canned foods should be an interesting proposition in all homes throughout the year. Those people who are not interested in putting up home-produced canned foods for home consumption or for some excess for local markets are certainly interested in the canned food question, because every family has to use more or less canned foods, especially throughout the winter months. Anyhow, in midsomer and on throughout the warm months up to frost and even after, an essential part of the week's work in great numbers of homes is the preparation of canned foods for winter use. The commercial canneries have been greatly improved and the process perfected during the last few years, but commercial canning can never take the place altogether of home canning and preserving of foods for table use.

In the last few years numbers of people have naturally been somewhat befuddled
on account of the widespread discussion of dietary deficiency diseases, such as pellagra. In many such discussions the point has not always been made entirely clear as to the safety and value of canned foods. We are glad to publish the reassuring statement in these columns that canned foods for the most part are wholesome and safe. If the canning is thoroughly and properly done, the heat is sufficient to kill all germs in the product; and if the sealing of the cans is carefully done, the product is safe, regardless of what kind of containers are used. In other words, if the canned stuff is put up properly and kept as it should be, it is a safe and wholesome food supply. Several scientific committees and commissions in the country representing health organizations and other agencies have made thorough and accurate tests of these questions, and in a recent report one of these commissions assures the public that both home and commercial canning afford a type of food which is wholesome and sound.

North Carolina can easily produce enough canned foods, such as tomatoes, peaches and apples, many varieties of vegetables, and so on, sufficient to supply the needs of every individual in the State every day in the year. It should not be necessary to import canned goods of any description into North Carolina. With organized and systematic efforts carried on throughout the State in which business principles and scientific cleanliness take precedence, a safe and wholesome supply could be available at the doors of all of our population, from home grown and produced products.

THE HOT LUNCH QUESTION

Some of the older readers of the Bulletin may remember that more than ten years ago the present Editor of the Bulletin, in his capacity of Director of the Bureau of Medical Inspection of Schools of the State Board of Health, was urging upon the teachers' associations of numerous counties in North Carolina the establishment of hot midday lunches. We commenced that agitation at least fifteen years ago, at a period of time when there was probably not a single one successfully conducted in the whole State of North Carolina. We recall definitely that numerous school administrators told us that it was impractical, especially for rural schools, and that it was out of the question to undertake it in the city and town schools because of the lack of room and so on.

It is a pleasure to us, therefore, to publish in this issue the voluntary contribution, under the title of "Hot Lunch Project in Halifax County," prepared by Mrs. Hazel Ervin Wheeler, home agent of that county. Mrs. Wheeler includes in her article the contribution of Miss Mary Long Daniel, who has carried through very successfully the enterprise at the Hollister School in Halifax county. It is a peculiar pleasure to us to record this experience of Miss Daniel, because she has carried through the identical idea and plan which this writer urged upon the various teachers' institutes in 1917 particularly. We hope parents and teachers alike in this State will read the contributions of Mrs. Wheeler and Miss Daniel, and go and do likewise.

HOT LUNCH PROJECT IN HALIFAX COUNTY

BY

MRS. HAZEL ERVIN WHEELER, Home Agent

Halifax county has twenty-one schools in the rural system. Sixteen of these schools had Hot Lunch last year. Hot lunch in the rural schools means one hot dish served daily to supplement the cold lunch brought from home by the child. This hot dish is usually soup, beans, or potatoes. Vegetable soup is the favorite among the children.

The county nurse, Miss Davis Dickens, and the Home Agent jointly saw that each child in the county schools was weighed each month. By this means a check-up of the overweights and underweights was
made. Suggestions for each class was made and here was where the hot dish played such an important place. In order to further this project Miss Annie Cherry, rural school supervisor, worked up some clever and advantageous devices and placed them in the hands of each pupil. This aided greatly in making a lasting impression on the student of what he weighed at beginning of school term, middle of term, and end of term, also of what he should weigh to be up to standard according to the Age-Weight table. Practically every child was able to say whether he needed to gain or lose weight.

The various organizations in the schools gave wonderful help toward making it possible for each child to have this hot dish. Eight of the sixteen schools serving lunch were fortunate in having the woman's home demonstration club can vegetable soup mixture during the canning months for the use of the school in the winter. These women met the home agent at the school building on an appointed day with car loads of corn, beans, tomatoes, okra, and carrots to be turned into soup mixture and canned. When night drew near usually 100 to 150 quarts of soup mixture had been stored for winter use. This canning meant free hot soup for the children, so let us hope more of the Woman's Home Demonstration Clubs will join in on the approaching canning program.

The article written by Miss Mary Long Daniel will give you a clear conception of how such a project can function for the good of all in a rural school. After reading this article every club will want to do what the Hollister Club has done for her school children.

"One of the most pleasant periods of the school day during the past year, was when I went from room to room during noon recess and found one hundred per cent of the children enjoying one hot dish for their lunch. The years before when the nickel or its equivalent had to be brought for this dish there was often found in the room five, ten, or fifteen wistful looking little faces that would make one wish there could be free hot lunch. Sometimes those little faces were the very ones that most needed the good warm nourishing dish. 'Them days have gone forever' in our school, for the Woman's Home Demonstration Club in our community last year made it possible for us to serve that free hot lunch each day to every one. This has helped to develop the child in body and mind. The Parent-Teachers Association furnished the cans and woman's club came loaded with vegetables, and with Mrs. Hazel Ervin Wheeler's aid they soon turned into our store room about 115 cans of delicious soup mixture. Then later in the fall when a letter signed by Miss Cherry, Mrs. Wheeler, and me, went into each home that had not had a chance to share in this canning, with a suggestive list that they could contribute in order that their child or children could have a hot dish each day, we readily got one hundred percent co-operation.

"To feed our 90 children for one day we used five cans of soup mixture and added to it about one quart of dried butter beans or three or four pounds of Irish potatoes. If the club ladies can for us this summer the 500 cans we are calling for, the children will have that much 'loved soup' every day as they are always anxious for 'soup' days to come and the greater number of the children like soup better as a constancy than any other dish.

"We serve on an average about eighty-five children each day. We select two cooks from among the larger girls to serve a two-weeks term, one sixth-grader and one seventh-grader. This is done to avoid a conflict with classes and cooking. Six waiters are selected to serve a one-week term. They serve the soup, with cooks' aid, collect and clean the dishes. One teacher acts as supervisor of the work for a one-month term.

"It is not surprising to know that our children have developed physically as well as mentally after partaking of one hot dish each day from our weekly menu as follows:

"Monday, soup (5 or 6 cans); Tuesday, peas (1 gallon); Wednesday, stewed sweet potatoes (one-half bushel), or chicken broth; Thursday, beans (one gallon); Friday, turnips with hot corn-bread (one-half bushel and one gallon meal).

"When all parties work together wonders can be wrought,
Ninety children can be served hot lunch as well as taught."

Parents and guardians should take care to have their children vaccinated against smallpox before entering school this fall. If the first attempt is not successful, keep trying.
The Editor of the Bulletin received a letter in the morning mail not long ago, which, in many respects, proved to be an interesting and remarkable letter. The writer of the letter, a resident of Montgomery county and a regular reader of the Bulletin for many years, writes us requesting that we re-publish an article written by Dr. Cyrus Thompson and published in the issue of the Bulletin of May, 1912. The subject of the article was: "The Fly and Filth." The writer of the letter proceeded to quote several paragraphs from that article, and stated that he had kept his copy of the Bulletin for several years, referring to it frequently. The writer states that if we would re-publish the article, he feels sure that "it should appeal to every person who values health and cleanliness. It is the best article I have ever read on the subject."

Naturally we take great pleasure in re-publishing the article, which will be found commencing on another page under the aforementioned title. In a number of respects that particular issue of the Bulletin, published more than sixteen years ago, was in our opinion one of the most effective issues ever sent out from the State Board of Health offices. The chief credit for the editorial arrangements and the conception of matter in that issue should, of course, go to Warren H. Booker, who for seven years along during that period was one the most conscientious, intelligent, and efficient officers the staff of the North Carolina State Board of Health has ever had.

It is interesting to recall that at that period, when this issue of the Bulletin went into every county in North Carolina, that a very small percentage of the people living in the State had screened homes. There has been a vast improvement in that respect; but the article by Doctor Thompson about the house-fly is just as timely today as it was when published sixteen years ago.

The automobile has largely replaced the horse, especially in the cities, towns and villages of the State; the grocery stores, markets, and so on are much cleaner and better managed today, chiefly on account of advances in refrigeration and the more systematic preparation of articles of food for the consumers' markets. At that time, with the exception of Durham, New Hanover, and Guilford county outside of Greensboro, there was no organized health department in the State. It was practi-
cally nobody's business to look after such matters as the prevention of fly breeding in any of the rest of the State, (with the exception of Asheville), except as volunteer workers, through civic leagues and other agencies, made it their business anyhow.

The great increase in the establishment of modern dairies on a large scale around the smaller towns, as well as the cities, has served to greatly reduce the number of individual cow stalls kept in the suburbs of all the municipalities of the State. There are, however, a sufficient number of foci in practically every city, town, village, and hamlet in the State, as well as the country districts, to make the breeding of flies comparatively easy even at this time. Efforts that were in vogue sixteen years ago will do no good toward the preventing of the breeding of flies in 1928 unless the same intelligent application and vigilance is exerted by everybody in order to keep these pests at a minimum.

We are grateful to our friend in Montgomery for his letter and especially for his request to re-publish Doctor Thompson's article. We are sure that many people about over the State will find the paper interesting reading, especially those who were boys and girls back there sixteen years ago, when this article was first published.

THE FLY AND FILTH

By

CYRUS THOMPSON, M.D.

To lift men out of old ruts is always a slow and thankless task. When you would rouse to new action men ordinarily intelligent, you are met with querulous irritation: "A little sleep, a little sumber, a little folding of the hands to sleep."

In a daily paper published in a great Southern city, I read only the other day this pert editorial paragraph: "Another bad thing about mosquitoes and flies is the lectures about them." So the sluggard would keep his bed; and so a sinner might say that another bad thing about sermons and appeals for right living is that "they hit my sins and disturb my sleep."

If one living in a country where flies are unknown (if such country there were) should be transferred to our own summer homes, he would come upon the housefly problem with entirely different feelings from those that are experienced by the natives. But men get used to anything, even filth and flies, and pestilence and death. The rollicking fun of the Decameron was played in the face of the Plague.

"Exterminate the flies!" said a farmer to me one day; "why the flies are useful creatures, a little troublesome sometimes, to be sure, but they are scavengers about our homes, wisely provided by nature, like the buzzard of the air; and I just don't see how we could get along in the summer time without flies. They clean up the filth about our premises."

This was an average man with the average vision in an average community. He had been reared to feel that houseflies, like mosquitoes, ticks, and various reptiles, were necessary and inevitable concomitants of the summer time. Maybe we shall be able to teach his children to assume a different mental attitude. They may learn that a buzzard is a safer and more genteel scavenger than a housefly, a really helpful and harmless high-flyer, taking away something and bringing in nothing, an avian not to be thought of in comparison with the filthy low-flyer about our houses which with equal zest revels in filth and relishes dainties, carries away nothing and brings in everything.

My average man would, of course, reject his cup of coffee into which a fly had haply fallen, or his glass of buttermilk into which presumption had dashed an individual unfortunate to sudden death, or his bread that enshrouded one untidy done; but the fact that the solid portions of his food had been the playground and festive board of the reeking feet of the living swarm would be accepted by him as so natural and inevitable that his food would not lose its flavor, nor his palate its relish because of these pestilential addi-
tions. So great is his respect for and abhorrence of the dead and his tolerance of the living; so custom makes him happily inert in the dangers that swarm about him.

A man can get used to anything. Tired out on a second night's vigil not long ago, I lay down on a clean bed for a little rest and sleep. After an hour or two they called me and I got up to look after my patient. As I sat thinking, a kind old lady leaned toward me with outstretched fingers and flicked my collar, saying, "Hold on; there's a traveler, I believe. Well, it's a-getting about time for 'em to begin to move around." It was not a housefly; it was a wingless bug of the horizontal flat variety, the Cimex lectularius, a common bedbug that fortunately had not bitten me. I related this incident to my average man and he was horrified. He explained that he would hate to be a doctor and take such chances as that.

This same man, mind you, considers the housefly a useful scavenger. It is all a matter of education and custom, and not a matter of taste. Now as a matter of unprejudiced fact, barring the sting of the bite and the odor of the encounter, the bedbug is much the more eligible companion, whether of bed or of board. But if bedbugs, comparatively cleanly of habit, crawled all over your plate, table and food, just as the houseflies crawl, fresh from foulest filth of every pestilential kind—who could eat or even sit at the table for a moment? I am not making a plea for the elevation of the social status of my nocturnal friend, who loves darkness rather than light; but I am declaring that his deeds are not nearly so evil and destructive as those of the housefly, who can boast his love of light and his love of filth.

Twenty years from now, if not sooner, let us hope that the fly will have lost his social status, and that his presence in a house will be considered as disgraceful as it is dangerous. The only good thing about houseflies is the "lectures about them."

Other papers in this Bulletin will consider flies in their relation to disease and the methods effective for their extermination. This brief paper is intended only to point out the relation of flies to filth and to emphasize their exceeding filthiness. If there were no filth there would be no flies; and if there were no flies there would be much more of common decency and much less of human disease and untimely death.

Flies may feed and live upon our daintiest viands or the filthiest matters that they find in their way. As to the matter of living, they are of great adaptability and utterly without discriminating taste. But they breed only in filth. They may breed in garbage heaps that contain decaying vegetable or animal matter; they may breed in human excrement in open privies; they may breed in pigpens and on cow manure; and most of all in horse stables. They breed on any foul substance where fermentation is going on. Cow manure, drying rapidly and crustig over and less given to fermentation because of lack of carbohydrates, offers a less favorable nidus than human excrement or horse manure. Their favorite breeding place is the horse stable; but next after that the human excrement in open privies, perhaps, attracts more flies for feeding and breeding purposes than any other substance. And flies bred in privies are manifestly filthier than those bred in stables, and are actually more dangerous to human health, because of the infectious character of the foul stuff they breed in and feed upon.

Their eggs will be laid, as we have said, upon any animal excreta or decaying vegetable or animal matter; that is, wherever there is fermentation, which condition presupposes heat and moisture. If it were possible to have filth without heat and moisture, then we could have filth without flies. Heat and moisture for purposes of breeding and feeding are of absolute necessity. Filth, heat, and moisture are the three things necessary for the propagation and development of the housefly. It is for this reason that flies are less numerous in winter than in summer; less numerous in a cool summer than in a hot one; less numerous in a dry summer than a wet one. You have noticed how they come in literal swarms full grown after a hot spell in wet weather.

As to the manner of propagation and the security of the fly against race suicide, it need only be stated that a female fly lays on the average not less than one hundred and twenty eggs at a time, and lays certainly several times during a season. In summer weather the eggs hatch in eight or ten hours after they are laid. The larva, as it issues from the egg, burrows at once into the substance upon which the egg was laid. Undergoing successive stages
of development, it is transformed to the pupa in five days. The larvae are always exceedingly active and descend from the surface to the interior of the breeding place as they approach the pupal stage. This stage lasts about five days; and when the pupal stage is about to end the pupa makes its way toward the surface, the fly emerges, and leaves its sheath, full grown. It crawls around for a little while until its wings dry, develop and unfold. Then setting out from its foul breeding place, it feasts at your privy and unwashed lips and unwiped feet in your parlor and at your dining table.

The life process, from laying of the egg to the fullgrown fly, in warm, wet weather is ten days or less; though under less favorable conditions, as in early spring or late autumn or cool, dry summer weather, this period may be lengthened. After getting out from their breeding places, in ten days they are sexually mature. The original flies that live throughout the winter and were first to lay in the spring time may in our climate certainly be the progenitors of ten separate generations, and each successive generation may propagate its species through the remainder of the season in such astonishing numbers and at such brief intervals. To kill them after they have come is so nearly impossible that the wisdom of the situation is to prevent their coming. If ever there was a condition where an ounce of prevention is worth a pound of cure surely it confronts us here.

Clean up and get rid of your fermenting filth. Give them no place to breed and their feeding will not trouble you. Dry out your garbage piles, screen your privies, and dispose of your stable manure out your garbage piles, screen your privies, and dispose of your stable manure once a week, that is, within the time of the life cycle of the fly, and you will have destroyed him before he comes.

ACCIDENTS EASILY AVOIDED

All of us need to be reminded every day of the fact that there are a great many accidents of daily occurrence in and about the ordinary home which often prove fatal or maim the victims for life, which could be easily avoided. It is said that many children in the past few years have had their eyesight completely destroyed by tinkering with golf balls, some of which contain an acid and sometimes explode with disastrous consequences.

The eye is a very delicate mechanism and by its very nature is easily exposed to accidents of various kinds. Good eye-sight is one of the most valued possessions anybody can have, and yet people abuse this important organ of sense in a way that is inexcusable, and often with disastrous consequences. Many persons have lost the sight of one or both eyes in working around machinery in factories and mills, where flying particles get into the eye. It is a frequent occurrence, when such injuries happen, for the fellow worker at the table or machine next to the injured one to undertake to remove such particles or to tinker with the eye which is injured, and this habit frequently causes infection to the eye or incurable injury, either of which results in loss of sight. In our boyhood days we remember one of the ablest lawyers in eastern North Carolina who had lost the sight of one eye while a baby on account of a careless nurse allowing him to handle an ordinary table fork. The baby jabbed the fork in the eye with the resulting total loss of sight for all his life.

A great many people have a habit of self-doctoring their eyes by mediating the eye with all sorts of salves and washes, some of which are very injurious. The head of a family would not think of allowing his young child to tinker with the mechanism of his watch, but such fathers frequently see no harm in allowing their children to take chances with their sight by injuring and exposing their eyes to injuries and accidents of various kinds.

The sight of many children and adults is sacrificed every year on account of the careless use of lye, used for laundry purposes around many homes. It should be a criminal offense for any adult to leave a can of lye within reach of any innocent child. It is one of the most dangerous and caustic poisons known, and yet the average person takes no precaution about handling it. It is impossible to estimate the number of children whose lives have been lost on account of swallowing lye, to say nothing of the suffering and agony often stretching over a period of months and years following such accidents. When lye is swallowed by the child, if the dose does not immediately prove fatal, the caustic action results in the stricture of the
esophagus, making the ensuing suffering intense and sometimes necessitating artificial feeding through an opening made in the throat or stomach. It is a terrible accident.

We have called attention before to the very common occurrences of falls around the home resulting in injuries and frequently in death to people who carelessly use rocking chairs in place of step ladders, falling off tables, and many other careless habits which produce dangerous accident. While the accident of falling out of second-story windows is not so frequent now as before the universal adoption of screens, it is a frequent enough occurrence to require precaution on the part of mothers and nurses about allowing young children to climb up into the windows where dangerous falls may mutilate or kill such babies. Many children especially are injured through falling out of the bed. This, of course, could be easily avoided by a little forethought and precaution. We have often called attention to the unnecessary accidents about automobiles which happen to young children, especially the backing of cars over children, which can always be avoided by a little thought and care on the part of the adult driver. In the reports issued by one large insurance company of the United States for a recent year, it is said that falls of all kinds cause more accidents than all the other miscellaneous accidents about the home together. In fact, falls of different kinds resulting in serious injury were exceeded only by automobile accidents. When we realize that at least ninety-nine per cent of such accidents are easily preventable, it seems that enough has been said to remind our readers of the necessity for care in the ordinary activities of daily life.

THE NURSES’ FIELD CHART

Ten years ago the Bureau of Medical Inspection of Schools of the State Board of Health employed a half dozen nurses for work, under the direction of the Board, among the school children, especially of the rural districts of the State. This personnel has been in the constant employ of the Board ever since. The number has been augmented at times, and this particular group of nurses have done work in practically every county in the State of North Carolina with the exception of a few of the counties which have their own nursing organizations connected with the health department. In addition to the aforementioned group of nurses, the State Board of Health, in cooperation with the Federal Government, has also had in its employ for several years another group of nurses which are assigned, for the most part, to county work under the direction of county health officers, the county operating on a financial basis. In addition to the two groups mentioned, there are an increasing number of nurses employed in local work altogether, such as in connection with industrial plants, local schools, health departments, and so on. No one knows at any time exactly how many nurses are in the public employ within this State.

Many of these nurses are highly educated women, and some of them have had a wonderful experience in the growth and development of public health work in North Carolina. For several years past the Editor of the Bulletin has been impressed with the interest and value of many of the observations casually included in the official correspondence of some of these nurses. In view of the foregoing, we propose to run an occasional page, so to speak, in the Bulletin, under the general and all-embracing title of “The Nurses’ Field Chart.” The chart to a trained nurse is what the log is to a sailor.

The material we are using for this present issue has been provided by Miss Cleone E. Hobbs, one of the first of the nurses employed in the work. Miss Hobbs is a native of Clinton and was for several years in charge of the infirmary of the old State Normal College at Greensboro and a teacher of hygiene there a part of the time. Also for three years she was president of the State Nurses’ Association, and was a member of the first State Nurses’ Examining Board, serving on that board five years, three years of which time she was president; and withal she is a cultured and able woman, and possesses peculiar powers of observation together with a fine sense of humor.

The continuance, with more or less regularity, of this page will depend on the amount, variety, and value of the contributions from the nurses engaged in public health work in the State. It will make no
difference whether or not the nurses are employed by local or State agencies. We, herewith, solicit their contributions, which may be directed to the Director of the Bureau of Health Education, State Board of Health, Raleigh, North Carolina. It is hardly necessary to add that the Director, who is Editor of the Bulletin, will be the sole judge of the availability of any and all contributions. However, we want to assure all possible contributors that their contributions are earnestly wanted and will be carefully and sympathetically examined.

Miss Hobbs' contribution:

TONSILS AND TEETH

A number of years ago, before it was generally known, by the laity, that tonsils and teeth could cause one to go lame in the knee or ankle or shoulder, a prominent young lady, in the place where I happened to be, developed a stiff knee. It became so serious she could not walk. She was sent to Johns Hopkins for diagnosis and treatment. On her return, of course, her many friends were anxious to know all about it. I happened to be present several times, when a friend would ask, "What was the matter with Nora's knee?" The reply "Her teeth" would cause the questioner to register incredulity, then suppressed mirth. Where it was not a member of the family questioned the mirth would break out into laughter. Now this statement causes no more comment, among the laity, than the fact that the earth is round and not flat as it was once supposed to be. If you have a stiff joint to develop suddenly and have not had your periodic examination because you are one of those people who don't believe in "Troubling trouble till trouble troubles you," you'd better hie you to a doctor and get examined.

THE FUTURE OF MANKIND

BY

J. B. S. HALDANE in Possible Worlds (Harper's)

It is quite likely that, after a golden age of happiness and peace, during which all the immediately available benefits of science will be realized, mankind will very gradually deteriorate. Genius will become ever rarer, our bodies a little weaker in each generation; culture will slowly decline, and a few thousand or a few hundred thousand years—it does not much matter which—mankind will return to barbarism, and finally become extinct. If this happens I venture to hope that we shall not have destroyed the rat, an animal of considerable enterprise which stands as good a chance as any other of evolving towards intelligence.

In the rather improbable event of man taking his own evolution in hand—in other

YOUNG AND TENDER

Thomas, age six, developed such a habit of arguing, every point, that his elders decided it was wisest to put a check on him. It was laughed about at first. His parents thought maybe they were bringing up a fine lawyer. He grew so quick at reporting that he became personal as when his Uncle John was helping him take a bath, Thomas declared the water was too warm. Uncle John said, testing the water with his hand, "Why Thomas, that is not as warm as I have the water for my bath." Thomas replied, "I don't care, you are old and tough and I am young and tender."

SANITARY

Frances, age nine, had begun the study of Hygiene and Sanitation, and was very much interested in the study. She discussed it on various occasions. The word sanitation and sanitary was often used by her. Her father thought she had some symptoms of malaria and had the family physician make a blood examination for it. When the report came it was negative. Frances exclaimed, "A-ha, didn't I tell you I was sanitary?"

PRINCIPAL AND JANITOR

One thing I have observed is "Like principal, of school, like janitor." Another is selling candy in schools and churches to raise money. I think it is pernicious and I tell the principals so. I have found schools that do it have a bigger per cent of underweights than those who do not. There was one large school doing it or two recently that had no scales and did no health work at all. There was a picture in "The Romance of Chemistry" showing the difference between two rats, one fed on bread and candy and one on bread and milk, that tells a story."
words, of improving human nature, as opposed to environment—I can see no bounds at all to his progress. Less than a million years hence the average man or woman will realize all the possibilities that human life has so far shown. He or she will never know a minute’s illness. He will be able to think like Newton, to write like Racine, to paint like Fra Angelico, to compose like Bach. He will be as incapable of hatred as St. Francis, and when death comes at the end of a life probably measured in thousands of years he will meet it with as little fear as Captain Oates or Arnold von Winkelried. And every minute of his life will be lived with all the passion of a lover or a discoverer. We can form no idea whatever of the exceptional men of such a future.

Man will certainly attempt to leave the earth. The first voyagers into interstellar space will die, as did Lilienthal and Pit-cher, Mallory and Irvine. There is no reason why their successors should not succeed in colonizing some, at least, of the other planets of our system, and ultimately the planets, if such exist, revolving round other stars than our sun. There is no theoretical limit to man’s material progress but the subjection to complete conscious control of every atom and every quantum of radiation in the universe.

But, whether any of these possibilities will be realized depends, as far as we can see, very largely on the events of the next few centuries. If scientific research is regarded as a useful adjunct to the army, the factory, or the hospital, and not as the thing of all things most supremely worth doing, both for its own sake and that of its results, it is probable that the decisive steps will never be taken. And unless he can control his own evolution as he is learning to control that of his domestic plants and animals, man and all his works will go down into oblivion and darkness.

—Science News-Letter.

READ THE BAITY ARTICLE

We desire to call the attention of all readers of the BULLETIN to the contribution elsewhere in this issue by Prof. H. G. Baity of the University of North Carolina. The title of the article is “The Disposal of Domestic Sewage.” Mr. Baity is an authority on his subject. He writes with ease and grace, and the reader will find every paragraph interesting and even fascinating. We consider this exhaustive article on the very important subject discussed one of the most valuable original papers we have seen recently. Naturally we are proud to have the exclusive right to first publish this work of Professor Baity’s.

Pastoral scene at Currituck Court House. The sheep at Currituck Court House make a pleasing picture under the beautiful trees. They make an effective lawn mower as the grass looks like a velvet carpet... Those who love the esthetic would regret the other kind of lawn mower used in this quiet peaceful place.

St. Joan of Arc would have no trouble hearing her voices here.
SMILE, SMILE, SMILE!

All of the Various Body Processes Are Influenced by the Emotions

BY

JOHN HARVEY KELLOGG, M.D.

Smile! Good nature has a wonderful curing power. I used to know a doctor who for many years "practiced medicine" without giving any medicine at all; in fact, he did not do a thing but tell pleasant stories to his patients, and make them smile. When he found a man who was melancholy, he told him a funny story and got him to laughing, and that man began to get well right away.

Perhaps some of you remember the experience of Emerson, the Concord philosopher. In his last days he became very melancholy, so melancholy that they could not get him to smile. His friends came one after another and tried to make him smile, but they could not make him smile for months and months. Finally a friend succeeded in getting him to smile by telling him this story:

"A young man one morning wrote two letters, one to his young lady friend and the other to his washerwoman. By mistake he got them in the wrong envelopes. So, the washerwoman received the letter intended for the young lady. To the washerwoman he said, ‘I enjoyed myself very much the last time I saw her, and hoped to have the pleasure of seeing her soon again. But the letter that the young lady received said, ‘If you rumple up my shirt bosom the next time the way you did last time, I shall not have anything more to do with you.'"

And Emerson smiled. He was better for quite a while.

THE EFFECT OF EMOTION ON DIGESTION

There is nothing like smiling to aid digestion. I remember an experience of a good many years ago. A woman in the dining-room one morning was handed a letter that had just come from her home. She opened the letter. It said, ‘The baby has diphtheria. Come home quick.' She had half finished her breakfast. She arose from the table and hurried out of the dining-room, but did not reach the dining-room door before her breakfast was on the floor. The whole process of digestion was completely reversed, wholly as the result of a depressing emotion.

A CAT REVEALED THE WHOLE STORY

Doctor Cannon proved it to be an actual fact, that the emotions have a wonderful effect upon all of the important functions of the body, particularly digestion.

He explained this very clearly by some experiments he made on a cat that he had trained to assist him in his laboratory work. He made X-ray studies—in fact, the first knowledge we had about the movements of the organs in digestion were obtained from Cannon's cat. Doctor Cannon wrote a most interesting book, "The Mechanics of Digestion." To this cat he gave bismuth meals so he could follow their course by the X-ray. That was before human beings were taking bismuth meals. He had the cat trained to lie quiet on a glass table so the X-ray would come up through, and then he studied the cat's digestion.

The cat would lie quiet and begin to purr, and then the stomach would begin to work, to contract. The waves would travel over the stomach and all the way down the intestine, continually moving along in perfectly regular fashion, the whole digestive process proceeding merrily while the cat lay there happy, contented and purring.

HOW THE CAT'S DIGESTION WAS INTERFERED WITH

Then he tried the experiment of piercing the cat's tail. When he did so, the cat was much incensed and spat at him. Digestion stopped at once. The waves that were traveling over the stomach so merrily, the whole digestive process that was going on—secretion and peristalsis—all stopped instantly, and did not start again until the cat began to purr.

Ladies should remember that and keep their husbands purring at the dinner table.

FEAR CREATES PHYSIOLOGICAL POISON

What is true of digestion is just as true of liver action and of brain action.
and of nutrition. All the various processes of the body are under the influence of the emotions. Certain emotions actually poison the body. Hate, envy, scorn, jealousy and fear actually create poisons in the body, not psychologic poisons but real poisons. They poison the stream of life, the blood, and the consequence is that under the influence of these emotions the body shrivels and becomes enfeebled and all the life processes are interfered with. You see a person who is living under terror, under fear, under any of these depressing emotions, and he seems to shrivel up. He grows old prematurely. Worry kills a great many people. I imagine worry kills a hundred people where work kills one.

This is a real thing. When a person is nervous, worried and apprehensive or when a person is angry or jealous, when under the influence of any of these depressing emotions, adrenalin is produced in excessive quantity. Other poisons are produced in the body also. The result is that the vital machinery is very much disturbed; all the functions of the body, the digestive functions, and the liver and kidney functions—all these great vital functions of the body are disturbed.

**BE AMENABLE**

Suppose you change your state of mind. Now, what does amiability do? In the case of Doctor Cannon's cat, he watched until the cat began to purr again, and then examined the stomach. He found that it was at work again, the intestines were passing the food along, and everything was going on in the happiest and most normal manner possible. So you see it is very important to keep yourself in this purring mood, in a happy, peaceful, cheerful mood. If you find yourself in a state of misery and worry and despair, every minute you are making yourself worse; poisons are being produced in the body that are acting as an interference with the vital machinery, a handicap.

**GIVE A FRIEND A GOOD LAUGH**

So the thing to do is to smile, to laugh. If you have occasion to worry, refuse to worry. Absolutely refuse to worry. One does not have to worry. If you have worrisome things that you cannot get rid of, refuse to think about them. You say, "How can I when they are continually thrust upon me?" There is just one way to do it and that is resolutely to think of something else.

But you cannot put anything out of your mind except by putting something else in.

It is not because happiness, amiability and good cheer act as a positive force in lifting you up, but because they put out of existence the things that are holding you down, because the moment you get these depressing emotions out of the body, then the natural forces of the body, the natural healing powers, begin to work and there is a natural power in the body that heals. The same power that made you grow from a little baby up to your present dimensions, the same power that rests you at night while you are asleep, the thing that makes you gain in flesh, the power that regulates digestion and assimilation and heart actions—all of these natural forces at work in the body are healing forces.

The blood itself is a healing force. One great physiologist says it is the blood that heals. Moses said, "The blood is the life." The healing forces of the body have a chance to cure us when we keep ourselves in a cheerful state.

Hunt up somebody who is more melancholy than you are, and go to work and cheer him up. See what it will do to you.

**DO YOU SMILE BECAUSE YOU ARE HAPPY, OR ARE HAPPY BECAUSE YOU SMILE?**

I met a very melancholy looking man some time ago, a man I knew very well. He always has a very troubled look on his face. I said to him, "I am going to give you a lesson. I want to show you how to smile. Come up to the looking glass. Now smile." It was the most melancholy smile I ever saw. I called his attention to what a very grotesque attempt he was making to smile. I kept at it until he actually smiled. He really smiled at his own attempts to smile.

Try that some day. Go to a looking glass and practise smiling. It will do you good. You will find yourself smiling and laughing. You say, "That does not amount to anything. It is simply the shape of my face." It does amount to something. There is a school of philosophers who actually believe that we do not smile because we are happy but we are happy because we smile.
FACIAL MUSCLES GIVE AWAY YOUR THOUGHTS

The thing works from without in, as well as from within out. At any rate we know this, that the face and the brain are so very intimately associated that when we have a state of things in the face, the same thing exists in the brain; or when we have a state of things in the brain, it is mirrored in the face.

In the face, you know, just underneath the skin there is a great tangle of muscles. For instance, there is one group of muscles that control the lower jaw. Besides that, there are muscles underneath the skin that pull the skin around into all kinds of shapes so as to make the countenance fit different states of the brain. These little muscles pull the mouth down. When certain muscles contract they pull up the corners of your mouth and you smile. Then the levator labii superioris alaeque nasi (do not mention that to anybody, for they might think you are using improper language) is attached to the lip and to the edge of the nose. That is why we call it "alaeque nasi"—the wings of the nose. These little muscles, when they pull up the lip and the nose, give the scorning expression. When one gets in the habit of turning up his nose, as we say, at everything that comes along, these muscles get compression. When one gets in the habit of the lip and the nose, give the scorning expression, the "alaeque nasi"—the wings of the nose. These little muscles, when they pull up the lip and the nose, give the scorning expression.

Now, we can deliberately go to work and change that state of things. When you have a melancholy look, just go to work and cultivate smiles.

THE RIGHT KIND OF WRINKLES

A lady came to me the other day and wanted some wrinkles taken out of her face. There is only one way to take those vertical wrinkles out and that is to cultivate horizontal wrinkles. So I set this lady to cultivating horizontal wrinkles. It is a good thing for sick people to smile and to keep right on smiling, no matter how they feel. There are some diseases that disappear, positively disappear, when one really begins to smile. I have known people who cultivated disease. I remember a man who was at the Sanitarium some years ago. He came into my office and said, "Now, Doctor, I want to tell you at the start that there is nothing you can do for me that will help me at all. I am incurable. That is why I have come here, because I thought this would be a nice place for an incurable to live."

I told him this was not a home for incurables, that we did not receive incurable patients, and hence that I should have to convert his case into a curable one or else he would have to go away.

He said, "No matter what you do for me I know I am incurable. I am the worst case that ever was. I have had in mind for some time the erection of a home for incurables, so I could invite other incurable people to come and visit me and we could all live together."

He really was proud of the fact that he was incurable, only it was not true.

As a matter of fact, there are very few people who are really wholly incurable. Almost always something can be done for them. In fact, very few people can be absolutely cured. If we could be cured absolutely, we would never grow old and would live forever.

If a man is suffering from a serious chronic disease that cannot absolutely be cured, it may be arrested, and the arrest may be maintained for an almost infinite period; and if it cannot be absolutely arrested it can be slowed up, perhaps slowed up to such an extent that it will make almost imperceptible progress. That is pretty good, that is better than going down hill like a lightning express. If it cannot be slowed up as much as that, it can be slowed up some. The fact is the chronic invalid for whom nothing at all can be done is a very rare bird after all.

A MAN WITH IRREPRESSIBLE PLUCK

Certainly it is worth while to smile no matter what is the matter, no matter what the doctor said to you about your case. I recall once that I tried not to encourage a man, one of my early patients. This was more than fifty years ago. I examined my patient and found he had one lung almost entirely destroyed and part of the other lung destroyed also. His pulse was rapid, 120, his temperature 103 or 103, and he had a terrible cough. He just gasped for breath. He was a clergyman from Iowa.

We did not give him very much encouragement. I told him we would have to observe his case a few days. But I told his wife who was with him, as soon
as I could see her, that I thought it would be wise to take her husband back home as soon as possible. It was in the evening that I made this remark to her. The next morning he was right on hand early. He came down to my office with a very angry look on his face, and he pointed a long, bony finger at me. "What have you been telling my wife? What have you been saying to my wife?"

I said, "I had a little conversation with her."

"Yes, you told my wife I was incurable and that she should take me home. I do not want you to talk that way to my wife. She is discouraged enough already. I want you to understand, sir, that I am not incurable. I did not come here to be sent away. I came here to stay. I came here to get well and you have got to cure me."

I found that here was a man who had an irrepressible amount of pluck and courage. He could not be downed. Although his case seemed absolutely hopeless, I determined to try to do something for him. He was raising quantities of material from his lungs. I had examined the sputum and found he was actually expectorating portions of lung. I did not see any hope at all.

He said, "All I want of you, sir, is to tell me what to do and I will do it, and you will see I will begin to get better right away. I am not going to die. I am going to improve."

"Well," I said to him, "you should practise deep breathing." If I had a similar case now I should put him in bed, but I did not know that fifty years ago. I told him he must expand his lungs. So he got a cane, put it in front of his elbows and held his arms back. You would see this man walking up and down slowly taking deep breaths, with a serious, determined look upon his face, and doing it all day.

That man improved. His temperature came down. At the end of a month his temperature was nearly normal, his pulse was 100 instead of 120, and his cough very much less. At the end of three months his cough was gone and he had gained twenty pounds in weight. He was invited to address a large audience in one of the local city churches, and he was such a completely changed man you would not recognize him at all. He went home for a visit in the fall and came back and spent the winter with us, and the next spring he went home so much improved that, except for the fact that his breath was a little short, you would have said there was nothing the matter with him at all. For about twenty years I used to receive letters from him. He signed his letters "George Tompkins, E. C." The first time he put on a little footnote to say that the "E. C." meant ex-consumptive. He never failed to put the "E. C." on his name—always, I am sure, to remind me of the fact that he had proved my prognosis to..."
be false, that I had failed to down him and that he had triumphed over me.

DON'T INVITE THE ENEMY TO TRAMPLE ON YOU, RISE UP AND FIGHT

Well, that is what a man can do when he determines he will overcome apparently insuperable obstacles. No matter how you feel, if you will persistently smile and determinedly maintain your attack upon your enemy, there is a wonderful chance for even the worst invalid. The trouble is some people haven't any pluck. If they have a little aliment of any sort, they lie right down and invite the enemy to trample upon them. We must rise up and fight. Life is a battle anyway; it is a constant struggle against enemies that are all about us all the time. We must assume the attitude of aggressiveness, especially when we know that in biologic living we have a most powerful weapon. When we live rightly we put ourselves in harmony with the great powers of the Universe.

The same power that makes us is the power that heals us, and we cannot be healed in any other way. Healing is creating—re-creating. The same power that made the first man and the first tree, that is the power that helps the sick man to get well. It is the same mighty force we see in a tidal wave, or in a hurricane, in a cyclone, or in any other of the great forces of Nature about us—that same power is at work within our bodies, making blood, repairing tissues and doing all the things needful to bring us back to health.

CULTIVATE THOUGHTS OF HEALTH

Smile! Sing a song in your heart. It is better to be singing than to be thinking about miseries. Sickness is largely a state of mind anyway. I presume all of you have found that out already. The sight of a pleasant friend sometimes makes you forget all your ills and all your troubles.

We can cultivate disease as we can cultivate health. I remember hearing a good many years ago of a man down in St. Louis who heard that the cholera was coming, so he had his wife get a bottle of cholera medicine and put it alongside the bed so as to be sure to have it in the night if the cholera should strike him. About three o'clock in the morning he felt a terrible pain in his stomach (he had lobster salad for supper, which was probably the cause of it.) He awoke in great terror, and cried out to his wife, "I have got it. Where is the medicine?" She passed over the bottle to him. He took several large smalows of it, and rubbed some on the outside. Finally he went to sleep in comfort. But in the morning he discovered he had gotten into an ink bottle. He was of course, entirely relieved.

HOW ONE WOMAN'S PAINS WERE "ABSORBED"

Soon after I graduated in medicine at old Bellevue Hospital something more than fifty years ago, my good friend, Dr. George M. Beard, the man who invented neurasthenia (neurasthenia is an invention—an invention of the devil I have sometimes said—and I helped him do it), invited me to spend a little time with him in one of the dispensaries in New York where he had a clinic. At that time he was conducting a series of experiments on what he called mental therapeutics. He had several different methods of applying the idea. That was to cure patients by purely mental means. One scheme was to apply magnetism (pseudo-magnetism, of course). He had a battery in the room and two brass knobs used as handles.

He took these off the battery, laid them on the table, and when the patient came in—I recall at this moment the case of a woman—the doctor said to her at once, "Madam, I suppose you are sick?"

"Of course I am sick or I would not be here," she said.

He said, "Sit down and we will cure you."

She seemed a little surprised because she had not mentioned her troubles.

"I do not care what is the matter, we will cure you here. We work miracles here every day. We do not think anything more of working a miracle than of eating breakfast. Sit right down; we will have you cured in no time."

"Do you think you can do anything for this pain in my head, Doctor?"

"Yes, it will be gone in three minutes."

He took up these little brass knobs and he said, "They are two powerful magnets and they are mates. One of these magnets I am going to put in the window over there. (He put it on the top of the lower sash.) Now, the other magnet, which is the mate of this one, is in communication with that one all the time, the two with one another. I am going to apply this to your head. It will absorb all the pain.
from your head and carry it over to the other magnet, don't you see? Thus it will carry the pain away.

So he began applying the brass knob to her head, and counting some sort of cabalistic numerals, 1, 3, 5, 9, 7, 13, and so on. "Do you feel it?" he said. "Do you feel it in the little toe of your left foot? Do you feel it in your right hand?" Of course she had to feel something pretty soon.

"Yes I feel it. I can feel a quiver down my right arm, and something quivering in the little toe of my left foot."

Pretty soon she could feel it running all over her body. In two or three minutes he said, "Where is the pain?" She looked all around the room for the pain, and at the little brass knob in the window— as though she expected to see it there. The pain disappeared in less than five minutes. The lady went out of the room completely relieved. She returned a week later and had not had a pain since.

ONE CURE FOR INSOMNIA

Another poor woman could not sleep; she had not been able to sleep for six months. She had a nursing baby, and was thin, emaciated, in a state of malnutrition. She was really very much worried. The doctor told her, as he did the other lady, that she could be cured and that he could cure her right off. In this case, instead of applying magnetism he gave the woman some medicine. It was a brown liquid, which had no property except a bad taste. It contained some quassia and various other bitter and nauseous things. It simply had a very, very bad taste. He said to this lady, "Now, here is some medicine I am going to give you, a very powerful medicine. When you go home, just as the clock is striking twelve and before you have eaten any dinner, put one drop of this medicine on your tongue. Do not drink any water. Just put it on your tongue and let it remain there." This was so she would get the full benefit of the flavor of it.

"If the clock has finished striking twelve before you have taken the medicine, before you have got it on your tongue, do not take it until the next day, and be sure to take but just one drop. If you should take more than one drop, or if you should take it at any other time except when the clock is striking twelve, I would not be responsible for the consequences."

Well, the woman took the bottle along. When she went down the hall she heard the doctor say, "You will sleep tonight." When she got clear to the end of the hall he said, "You will sleep tonight, Madam. You will sleep better than you have ever slept in your life!"

The lady came back at the end of a week and she had slept soundly every night. She had taken no medicine except one drop of a bad taste on her tongue. She gained several pounds in weight. She reported every week to get her medicine. She improved right along, gained ten or twelve pounds in weight, and at the end of three weeks was in fine shape.

That doctor did not apply any other sort of treatment but that I have mentioned to you, but the patients all improved. I followed these patients to their homes and made a record of what happened to them afterwards. The record was so remarkable that Doctor Beard said to me one day, "This is hard on the materia medica. I have never had better results from any treatment that I ever applied."

'TIS ONLY THE HOBGOBLIN'S GHOST

This was more than fifty years ago. This was before the days of Christian Science. Christian Science has demonstrated in thousands of cases that many people are sick only because they are pursued by the ghosts of hobgoblins of maladies that they do not have. They think they are sick.

I knew a lady whose poor husband had nearly broken his back lifting her about for seventeen years. She had not walked for seventeen years. A Christian Scientist got hold of this lady and in three days she was on her feet again going about the house. I have a strong suspicion in this case that the lady was walking around somewhat perhaps when people were not looking. Think of how much it relieved that husband. He certainly was benefited by Christian Science. There are a good many cults that are wonderfully successful in curing a certain class of people.

WHEN DISEASE ASSAILS YOU—FIGHT BACK

Thinking about sickness and talking about it will make a person sick when he is really well. It is of the utmost importance that the person who is sick should fight his disease with his mind. You can
fight with the mind more than you can with any other remedy I know of. The thing for a sick person to do, if he finds himself assailed by disease, is never to surrender, never to lie down and let disease trample him under foot, but to hold up his head and fight back.

**How to Get a Malady If You Want One**

John Hunter, one of the greatest medical men that lived in England, experimenting in this line one day sat down and thought about his great toe. He thought about the gout and he actually willed the gout into his big toe so that in two or three hours, thinking of his big toe and thinking of the gout, he actually had an attack of gout. I dare say he was right on the borderline already, for the doctors drank a great deal of wine in those days and it was easy for him to get gout, but probably he would not have had it if he had not thought about it.

**His Delightful Indigestion and How It Behaved**

I have known many people who get all sorts of miseries by simply thinking about them. I remember a case many years ago of a man who came to the Battle Creek Sanitarium with a peculiar kind of dyspepsia, a new sort of stomach. It was a very rare sort of case. We had not had such a case in a long, long time. He was very garrulous, and loved to tell about his wonderful indigestion and how it behaved. So he was telling everybody about it all the time. It was less than two weeks before we had twenty cases of the same sort in the house. We had rather an epidemic of it.

**She Loved Her Malady**

I recall a poor lady who seemed to have a whole assortment of picturesque and imaginary maladies. We treated her for one, got that cured and another one broke out. She seemed always to have one ready on hand to spring upon us. There was no end to it. She was all the time complaining that she was no better but was getting worse all the time.

After several weeks her husband came to see her and and I hoped that something would happen that would help us to get relief from this case. He said to me, in the office, "Doctor, I don't think my wife is any better. What do you recommend me to do next?" I hardly expected that question. I was not prepared for it. I ought to have been, but I had been rather busy and had not prepared myself for the emergency. I was really considerably distressed for a few seconds to know what to say. Finally it occurred to me that the best way out was to adopt a sort of strategy that doctors quite frequently resort to, and to recommend a change of climate. So I suggested a change of climate. Nothing could have been more short-sighted. Then came back, as quick as a flash, "Doctor, what climate do you recommend?" I saw I was in a bad dilemma. If I should recommend Florida, he would go to the expense of taking his wife down there and she would be no better and he would feel that I had given him bad advice. If I should say Canada, it would doubtless be just the same. I hesitated a moment. I had taken a great chance. I did not see any other way out. I looked at him very solemnly and I said, "My friend, I think there is no climate but heaven exactly adapted to your wife's case." The tears burst from his eyes and ran down his face, as he put out his hand and said, "Doctor, I believe you are right!"

**Get Your Imagination Cured**

Now, there are a good many cases of that sort, people who may be cured by getting the disease out of their imagination. There is no doubt about it. The point I want to impress upon you is that it is the duty of every sick person to set his imagination at work on the right side.

**Health Is "Contagious"**

There is a power far greater than the power of disease. If there were not we would not be alive. Robert Ingersoll made a remark one time, to the effect that if he had been present when the world was made he would have suggested that health be made contagious instead of disease. Health is the most contagious thing in the world. It is vastly more contagious than disease. If a man wants to get smallpox, for example, he has to hunt up another man who has smallpox and rub himself up against him in order to get it. If you want health, all in the world you have to do is to open your nostrils and draw in health from the air about you. The whole atmosphere is full of it. Oxygen is life. The air abounds with it. All we have to do is to breathe it in. In every morsel of food we have divine life, divine energy. The power that created us is in every mor-
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sel of bread, every mouthful of food we eat. We catch health from pure food and pure water. Health is made contagious, as I said before, by our contact with these powerful forces of Nature. We can absorb health, absorb vitality, absorb life.

FORGET YOURSELF IN SOMEBODY ELSE

But, you say, "What am I going to do when I feel so bad?" Just forget it. "How can I?" The only way in the world is to occupy your mind with something else.

THE DISPOSAL OF DOMESTIC SEWAGE

BY

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A domestic plumbing system has been compared to the capillaries of the blood circulation system of the human body. In this analogy the water supply mains and distribution piping correspond to the arteries of the circulatory system, both of which carry their life-sustaining and body-building fluids. The pumping station of the waterworks forces water to all parts of the municipality just as the heart drives the blood to every part of the human body. In the multitudinous small passageways of the capillary system the blood contributes elements to rebuild, repair and sustain bone, muscle and tissue, and carries away the waste products of the metabolism of the human mechanism; in the plumbing system water is supplied to serve the many uses of modern civilization, to sustain life and promote health and happiness, and to carry away the various domestic wastes produced in our daily life. The modern sewer system is the counterpart of the veins of the animal organism, which receives the polluted waste-laden water from numberless sources.

You cannot forget it by trying to forget it, because when you are trying to forget your troubles they stand up before you all the more vividly. The thing to do is to turn around and look the other way, occupy your mind with something else, something wholesome, something cheerful. One of the best things in the world is to find somebody else worse off than you are and try to cheer him up.—Good Health.

The tablet to Virginia Dare at Fort Raleigh, Roanoke Island. Virginia Dare was the first English child born in America.
and conveys it through house connections, laterals, submains, mains and outfall sewers, just as the veins collect and convey the blood which has accumulated the contaminating wastes and poisons of the human body. Then analogy may be extended even further—and this is the point of making the comparison as an introduction to this paper: The lungs and other organs of the human structure, which receive, filter, purify and again render suitable for use in the body's system the blood which was laden with waste materials, correspond in almost every detail with the processes of waste treatment, natural and artificial, which are employed to render safe and suitable for re-use as domestic water supply the grossly polluted sewage which is discharged through our systems of sewers.

**WATER AND SEWAGE IN THE ECONOMY OF NATURE**

The last phrase in this last analogy may appear to be extreme, exaggerated and far-fetched. It may be said that the analogy itself breaks down because every one knows that it is not customary practice to utilize our outfall sewers as sources of water supply and to purify the sewage to a degree that it may be safely used over and over again. No, that is not done, because it will never be necessary or economical to resort to that expedient, and sentimental reasons would forbid it. Water containing a much lesser degree of pollution and contamination is still available and plentiful for such uses. But the idea is not absurd or impossible of execution. It is entirely possible by methods known to the science to render sewage suitable for drinking purposes, but it would be enormously expensive. Sewage is not treated to that extent, because in practice it is not found necessary to do so. The point to be remembered is that sewage can be treated to any desired degree of purity, and that this degree is determined by the particular needs of the case in question. Nature is busily engaged every day in her quiet and unassuming way, in bringing about through her subtle processes the purification of staggering volumes of foul and contaminated sewage and wastes, giving to us bright sparkling water which you see in the raindrops or in the mountain streams. Part of the water which we drank today probably one time carried filthy organic waste materials and teem-
common parlance to express the process of rendering sewage less objectionable from the aesthetic and hygienic points of view.

THE NATURE OF SEWAGE

Sewage is only the spent water supply—water which has been rather roughly handled in passing through plumbing fixtures, but the physical character of which has not been so greatly changed after all. It still contains more than 99.9 per cent of water. Less than 0.1 per cent of the sewage is composed of solids, suspended and dissolved, which the water has taken up in being used. Part of these solid materials, about one-sixth, are rather large and coarse in nature and may be readily settled out; part of them, about one-quarter, are in a colloidal state and remain suspended in the liquid indefinitely: while yet another part, more than one-half, are dissolved in the water. Each of these three physical forms of sewage solids—settling, colloidal, and dissolved, is composed in part of mineral or inorganic materials which are stable and do not tend further to decompose. About 50 per cent of the solid matter of average sewage is of this character which does not offend or trouble us. It is the other fifty per cent which gives us grave concern, the organic solids in the three physical states which are unstable in character, and which are decomposed through bacterial agency to produce conditions which are offensive to the senses. The major function and perplexing problem of sewage treatment is the satisfactory handling of this organic class of solids, known as pollution, which constitutes about 0.05 per cent of the sewage weight, a trifling one pound per ton of raw sewage.

In the transformation of water into sewage the greatest change in character is found in the bacterial content. Water supplied to consumers from our modern purification works is practically sterile, and never contains a disease-producing organism, or a bacillus which had its origin in the intestinal tract of the human. Average fresh sewage contains from 2,000,000 to 4,000,000 bacteria in each cubic centimeter (15 drops). This phenomenal increase in bacterial population in the spent water is due largely to the enormous numbers of organisms contained in the excreta of human beings. Investigators have found that a normal adult man discharges in his feces an average of 33,000,000,000,000 (33 million million) bacteria per day, in addition to other millions contributed by his skin and urine. These are parasitic organisms which find their most favorable conditions for growth and multiplication in the digestive tract. These organisms, known as colon bacilli, are normal to the human and other warm blooded animals, and are always found in such numbers in their discharges.

THE MODE OF TRANSMISSION OF INTESTINAL DISEASES

Colon bacilli, being the natural inhabitants of all people, are, in themselves, harmless, and so long as a person harbors no disease, no disease can possibly be contracted by others from the natural and harmless bacteria which he gives off in his bodily functions. So most of the organisms contained in sewage are not of the pathogenic or disease producing kind. On the contrary, they are of genuine importance and value in the economy of nature through the scavenger work which they accomplish. But, if a person discharging sewage happens to be infected with the organisms of any of the intestinal diseases, such as typhoid fever, dysentery, or cholera, then these organisms will be discharged in quite as great abundance as the normal colon bacilli and will readily infect people who accidentally or ignorantly take these organisms into their mouth and digestive system. Each of these diseases is the result of a specific organism, and no one of these intestinal maladies can be contracted in any way except by taking through the mouth organisms from the intestinal discharge of a person afflicted with the disease. Transmission of the infecting organisms from person to person usually takes place by one of three methods: the three F's of epidemiology—fingers, flies, and food. Proper disposal of human excreta prevents the operation of either of these dangerous agencies. These facts make clear and significant the problem of disease control which is entailed in sewage treatment, and accentuates the responsibility of those charged with the disposal of domestic wastes.

SANITATION AMONG THE ANCEINTS

Among savage tribes and the peoples of antiquity there was an appreciation of a direct relationship between human excreta and disease. Why, they did not know, but they attributed the relationship to
filth in the vicinity of human habitations. It was not until the time of Pasteur and the proof of the germ theory of disease that it was known that infectious diseases were due to the presence and growth in the body of specific infecting organisms. In some respects it is well that the idea that disease springs spontaneously from filth has persisted, for such conceptions have promoted a clean environment; in other respects it is unfortunate that so many of our people have not known the real causes and factors of disease transmission, for they sacrifice life on the altar of ignorance in failing to safeguard themselves and society against the terrible ravages of preventable maladies.

In the 23rd chapter of Deuteronomy we find this law of Moses which was given to the Israelites about the year 1491 B.C.

“Thou shalt have a place also without the camp whither thou shalt go forth abroad:

“And thou shalt have a paddle upon thy weapon; and it shall be, when thou wilt ease thyself abroad, thou shalt dig therewith, and shall turn back and cover that which cometh from thee.”

Under the primitive conditions of that early day we find an appreciation of the dangers of exposed excremental matter, and the embodiment of the principles of the earth-pit privy which, to the present time, remains about the safest, simplest and most satisfactory method of disposal of human wastes where water carriage is not possible. In homes and communities not served by water supply the sanitary pit privy, properly constructed and maintained, provides a degree of protection to health which is second only to the modern plumbing system, and many thousands of these structures are being built and reconditioned yearly in North Carolina to serve such purposes, according to standard plans and under the supervision of trained inspectors of the State and local health departments. No claim is made that any privy is equal or superior to the plumbing system but under conditions where water supply and sewerage are not available they are necessary and are found to be a satisfactory expedient.

**Development of Public Sewer Systems**

The ideal method of removing excreta, household and industrial wastes is by the water carriage system. With water supply and sewerage and proper plumbing the excreta are at once washed away into a system of closed pipes and removed promptly and completely from the vicinity of the dwelling, thereby eliminating the possibility of nuisance conditions and disease infection. The recognition of these facts is a comparatively recent event and the use of the water carriage system for removal of excreta from the household is essentially a modern one, younger by centuries than the systems of public water supply. The Cloaca Maxima of Rome and other so-called sewers of antiquity were drains rather than sewers, their function being to lower the ground water level and carry surface water. They received only liquid wastes and did not carry excreta and household wastes. Until 1815 the discharge of any wastes but kitchen slops into the drains of London was prohibited by law. Other wastes were taken care of largely by the surface gutters along the narrow streets, into which the liquids were thrown through open windows from buckets conveniently kept in the houses until they were overflowing. Householders were often not very meticulous in the separation of these wastes, and sometimes were inconsiderate of the safety and comfort of the passersby in the time chosen for discharging them into the gutter below.

A story is told by Boswell in his biography of Johnson which describes the peril at which a person of that day ventured forth on the streets of London for his daily constitutional. The two of them were enjoying their usual friendly evening walk and chat, when all unannounced, a deluge descended upon them from an upper window. Boswell was the less fortunate of the two, and Johnson admonished him: “Keep thee away, for I can smell thee in the dark.” In Paris it was not until 1880 that excreta and solid wastes were permitted to be discharged into the sewers and the same methods of gutter disposal were in vogue as in London. It was customary, and typical of that delightful French courtesy, for the person to yell without looking, “Gardez l’eau” (“Look out for the water”) when a bucket of miscellaneous wastes was thrown, and expect the pedestrian to get out of the way. Almost every street presented a chorus of “Gardez l’eau’s” and a spectacle of jumping, shivering, cursing Frenchmen. During the certain hours of the evening, when the downpour was heaviest, umbrellas were
Modern sewerage and sewage disposal really had its beginning in the epoch making report of the Health of Towns Commission of Great Britain in 1844, which revealed the accumulation of such an astonishing amount of decomposing organic matter and filth of all kinds in the cities that it aroused British sanitarians to a strong movement for the amelioration of these conditions. Public and private cleanliness was taught and practiced as never before. Sanitary plumbing came into being, and the pail system of sewage disposal gave way to the water carriage system. Only three years thereafter, in 1847, it was required by law that all sewage be discharged into those drains from which it had been excluded by law in 1815. Other cities in Europe and America followed London's lead, some very slowly. In America the first comprehensive system of sewers was designed by E. S. Chesbrough for the city of Chicago in 1855, while the first system of separate sewers in this country, in which sewage was conveyed separately from storm water, was built at Memphis, Tennessee, by Colonel Waring in 1880. We see that sanitary plumbing and sewage are comparatively young arts—only fifty years old. And it was not until years later that the hygienic aspects of sewage disposal assumed the importance that it commands today. It has been but 50 years since Pasteur established the germ theory of disease, and less than that since Koch and other workers isolated and identified specific disease organisms. Until that time the presence or significance of pathogenic organisms in sewage were unknown, raw sewage was discharged into the streams, public water supplies were not purified, and the great prevalence of disease was attributed largely to the effect of sewer gas. Sewage treatment devices have been in general use for only twenty years or so, but in this short time their effect has been demonstrated in the remarkable decrease in death rate from the intestinal diseases.

NATURE'S METHOD OF WASTE DISPOSAL

To most people the word sewage conveys the idea of something that should be gotten out of sight and disposed of in the easiest, quickest way. The popular understanding of the term "sewage disposal" is getting it out of sight and out of the way. But there is a far deeper significance. Sewage disposal in its fullest sense implies the ultimate and complete reversion of all its unstable organic ingredients to the stable inorganic or mineral form. To discharge sewage into a stream, or to bury it in the soil, is only the first step in the process of complete disposal. Nature then takes it and through her agencies finally accomplishes its complete disposal. In present day practice, sewage treatment is only a step in that direction. It is partial disposal by artificial means, employing the agencies of nature for biochemical oxidation of the organic matter through the activity of living organisms. When the author of the Mosaic law directed that human excrement be buried he only voiced a custom which had come down through the ages. From the beginning of time the earth had been the burial ground for the wastes of animal and vegetable life, there to undergo transformation into mineral substances which again would support organic life, and which, in turn, would die, decay, and be transformed. It remained for the modern science of bacteriology, which has come into being in our own lifetime, to explain these mysterious processes of transformation which have been going on since life began. Modern biological methods of sewage treatment are only adaptations of the universal laws of growth and decay; tanks and filters are only incubation beds in which the processes of nature are utilized, and often hastened, but the processes are the same today as they were in the time of Moses. Hence, to understand sewage treatment, we must understand the ability of the soil to transform organic matter and the factors governing the processes of decay.

THE NATURE OF BACTERIAL DECOMPOSITION

Practically all forms of matter have the property of being convertible into other forms. Some change easily and rapidly, others more slowly. Every one is familiar with the rusting of iron, the rotting of wood, or the putrefaction of meat. Iron is more resistant to change than wood and wood is more stable than meat. Iron changes its form by direct chemical action, or oxidation. Wood and meat decay by what we term biochemical action, and are the result of destructive bacterial action. Sewage, as we have seen, contains a certain amount of unstable organic material which, when acted upon by bacteria, readily undergoes decomposition. This material
serves as food for the organisms, and utilizing it, they multiply rapidly. Under natural conditions, in sewage, in the soil, in streams, wherever organic matter is found, there also will be found bacteria which live upon it and effect its transformation into mineral form. The substances which furnish the most attractive food for the bacteria are the ones which are most quickly attacked and destroyed. This is a reason that meat decays more quickly than wood. Moisture is essential to bacterial activity; dryness usually kills the organism. Some forms of bacteria require air for life, and are called aerobes; others work in the absence of air and are known as anaerobes. Still other forms can adjust themselves to either environment and are known as facultative forms. The natural process of decay, which is the process adapted to sewage treatment, may, therefore, be briefly expressed as a biochemical change by which the bacteria convert the organic material into more stable substances which are harmless and innocuous. Sewage treatment plants do not usually complete the transformation; they do part of the work and leave it to natural agencies to complete the job.

THE TWO OBJECTIVES IN SEWAGE TREATMENT

In the treatment of sewage there are two very different functions to be considered. One is to get rid of the foul, putrescible matter with its accompanying offensive smell and appearance; the other is to get rid of living, disease producing organisms. One is very largely a physical and biological problem, while the other is chiefly bacteriological. One affects the public health only indirectly; the other directly. In sewage treatment practice it is necessary to consider for each individual case which of these functions is of paramount importance, and the degree of removal of organic materials or bacteria, or both, that is demanded. This information must be in hand before suitable treatment appliances can be chosen. It would be folly to go to great lengths to remove all bacteria from sewage when the problem was one of nuisance correction; it would be worse to attempt to remove only organic solids and allow bacteria to remain when the problem was the protection of a domestic water supply. It is wasteful to treat sewage to a greater degree than conditions demand; it is disastrous to provide less treatment than is required.

CLASSIFICATION OF DOMESTIC SEWAGE TREATMENT PLANTS

Sewage treatment devices are many and various in character. In municipal practice many different types and combinations of plants are utilized to accomplish desired results. Each type has its advantages, functions, limitations, and suitability to particular conditions, the discussion of which cannot be attempted in this brief article. The solution of municipal sewage problems, the selection, design, construction and operation of suitable plants is the function of the expert sanitary engineer who makes such work his specialty. These problems are very complex and judgment should never be rendered or treatment plants designed until extensive investigations have been made and all available data are in hand. I assume that the reader of this article will be more interested in the types of treatment works which he might employ in connection with residential or institutional sewage disposal where the treatment plant is too small to justify the employment of an experienced sanitary engineer. In as brief a space as possible several types of plants which are used for such purposes will be mentioned, some of the defects and advantages of each will be pointed out and references given to reliable sources of information on the subject.

According to the functions which they perform the ordinary home and institutional treatment appliances may be divided into the following three general classes:

1. Sedimentation devices, such as cesspools, septic tanks, and Imhoff tanks, which are employed to settle out the sewage the heavier suspended materials and decompose the precipitated solid through bacterial action.

2. Oxidation devices, such as subsoil irrigation, sand filters, and trickling filters, which are designed to receive the effluents from sedimentation tanks and effect a further removal of solids and bacteria by physical straining and the oxidizing action of aerobic bacteria.

3. Disinfection devices, such as chlorination with chlorine gas or chloride of lime in which the effluents from tanks or filters is treated with sufficient amounts of the sterilizing agent to kill the dangerous organisms still remaining in the sewage.
SEDIMENTATION DEVICES

Cesspools: A cesspool is the reverse of a well. A deep hole is dug into the ground, and its sides usually lined with open joint boards or with brick or stone masonry laid without mortar. The solids of the sewage are retained in the pit where they undergo decomposition while the liquid leaches out through its bottom and sides into the ground water. In time the pores of the earth surrounding the pit will become clogged with sewage solids, soil absorption stops, and the cesspool becomes filled with sewage and overflows to the surface of the ground, causing obnoxious and dangerous conditions. Under North Carolina subsoil conditions of impervious clay this type of plant would not function. In regions having pervious sandy subsoil absorption might be obtained for a considerable length of time. But under any conditions a cesspool is a potential menace, and its installation should be generally prohibited. By its use raw sewage, with its myriads of bacteria, is fed directly into the stream of ground water with the chance of infecting with disease organisms the water of wells in the vicinity. In North Carolina the installation of this type of treatment is not allowed by public health organizations.

Septic Tanks: Septic tanks differ from cesspools in being relatively shallow and having their bottoms and walls constructed of water tight materials. Sewage can enter or leave the closed tank only through the openings which are provided for the purpose, near the ground surface, with no chance for contamination of the ground water by leaching. Septic tanks are usually constructed of concrete, built either in place or precast, though commercial firms market tanks made of metal. The capacity of the tank is such as to retain the sewage entering it for a period of about 24 hours. As an example, let us assume that a tank is to be designed for a family of six people. The domestic consumption of water is about 80 gallons per capita per day. Then the minimum effective capacity of the tank should be 6x80 or 480 gallons. For schools and factories the per capita water consumption would be different, and this difference would be considered in the determination of the required tank capacity. Careful consideration must also be given to the shape and dimensions of the tank, for these factors govern the distribution and velocity of flow through it and also the distance which the suspended matter must travel in settling. It must be kept in mind that the function of the septic tank is to remove settleable solids from the sewage and digest these solids by bacterial action, and the design should be such as to accom-

Landing at Fort Raleigh on Roanoke Island where Virginia Dare, the first English child in America was born. Of course the pier was not there when her parents landed. Behind the trees is the tablet erected to commemorate the event.
plish this purpose most effectively. The sewage should be introduced into the tank, still, and allowed to remain in as quiescent a state as possible until it is removed. The hydraulic properties of the rectangular tank are much superior to those of the circular one. In the circular type of tank usually supplied by commercial manufacturers, there are variable velocities, tendencies toward short-circuiting, and the depth is usually too great in proportion to the diameter. When such tanks are used in batteries for institutional service these shortcomings are only multiplied. Battery installations have usually been found to be unsatisfactory and a waste of money. A much superior residential tank, and one which has been proved through experience gained in thousands of installations in this State is the standard individual tank of the North Carolina State Board of Health. For institutional service a slightly different type of standard septic tank has been developed by the State Board of Health and is now being installed, and used with entire satisfaction in hundreds of schools, industries, and suburban developments.

As the sewage passes through the tank in a practically quiescent state the settleable solids precipitate to the bottom as sludge, and the substances, such as grease and grease-coated particles, which are lighter than water rise to the top of the liquid and form a layer of scum. These solids are attacked by anaerobic bacteria, which, in the process of digestion, changes the character of the matter from an organic to a mineralized state and reduces its volume to a considerable extent. The residue which remains must be removed at intervals. Small residential septic tanks require cleaning at intervals of three or four years. Larger tanks should have the sludge drawn off more often, perhaps once or twice a year. Sludge valves should be provided in the institutional tanks by which the digested material may be drawn by gravity onto sludge beds of sand and gravel and dried. In any plant the sludge should be removed at intervals frequent enough to keep the accumulation on the tank bottoms from materially reducing the volume of the tank and increasing the velocity to an extent that sedimentation is impeded.

A well designed and well operated septic tank should remove about 65 per cent of the suspended solids of sewage and about 30 per cent of its total organic content. It seems to be the popular belief that when sewage is passed through a septic tank it is purified and rendered safe for any disposition. This is far from truth. Only a portion of the suspended organic matter has been removed, and none of the dissolved putrescible matter. Some of its original bacteria have been precipitated with the solids, but many more have been added by the septic processes within the tank, so that from the bacterial standpoint the effluent leaving a septic tank usually contains a great many more organisms than the raw sewage entering it. There is probably a reduction in disease-producing bacteria by the tank treatment, but there is no assurance that all pathogenic forms have been eliminated. It is still just as dangerous as a source of infection as was the raw sewage, and is never suitable for discharge onto the surface of the ground, into a dry ditch, or into a stream which is used nearby as a source of water supply or for recreational purposes. To be rendered safe for such discharge the effluent from the tank should be subjected to some form of secondary or oxidizing treatment, which will be discussed later.

Imhoff Tanks: This type of sedimentation and digestion tank was devised by Dr. Karl Imhoff, of Germany, hence the name. It is similar in action to the septic tank, but differs from it in having two chambers, the upper, or flowing compartment through which the raw sewage passes at a low velocity, and the lower or sludge compartment in which the anaerobic digestion of the precipitated solids takes place. Another point of difference in this type of tank is the retention period of the sewage, the flowing through chamber being designed to hold the sewage about two hours, and discharge it in a fresh condition before septic action has set in. The solids settle to the bottom of the flow chamber, slide down its steep slopes, and pass through the slot into the digestion chamber below. This slot is trapped in such a way that the gases generated by the bacterial activity in the sludge chamber cannot enter the flow chamber above, but are deflected through the gas vents into the atmosphere. The advantages of this type of treatment are in the complete separation of digestive sludge from the raw sewage, which results in a lower content of solids in the effluent and in the preservation of the fresh condition of the sewage, which facilitates sec-
ondary treatment. However, this form of tank is more complicated, and consequently more expensive, than the septic tank and is not frequently used to serve less than 50 people. It is primarily a device employed in municipal sewage treatment. Space does not permit a discussion of the factors governing its design or operation. If the use of this type of treatment is contemplated, it is advised that the State Board of Health be consulted for design data and suggestions.

OXIDATION DEVICES

Subsurface Irrigation: The two forms of tank treatment mentioned above remove from the sewage only a part of the organic materials and an even smaller percentage of the bacteria. If a greater degree of removal of these constituents is demanded, and in practically all cases of residential and institutional treatment it is required, additional treatment of the effluents must be employed. Secondary treatment accomplishes nitrification of the organic matter through the agency of aerobic nitrifying bacteria. The sewage is passed through some form of filtering medium of porous material, open to the air, in which the bacteria grow and feed upon the sewage ingredients as food as it trickles through the filtering material. This filter may be the soil of the earth, sand beds, or beds of crushed stone, lath or brush.

The form of secondary treatment which in most cases applicable to residential plants is the subsurface irrigation method, which consists of open joint farm drain tile laid near the ground surface in sandy soil or in trenches filled with cinders or broken stone.

It is essential that the absorption lines be near enough to the ground surface, usually not more than 18 inches, to permit air to circulate freely through the soil surrounding the pipe. The lines should be placed practically level, and the tops of the joints covered with tar paper to exclude sand. The lengths of line required for complete absorption will depend entirely upon the absorptive qualities of the soil. For average North Carolina conditions the minimum length of line should be 100 feet, and in the clay regions several hundred feet is often required. Complete absorption must be obtained at any cost. Sewage cannot appear on the surface of the ground. In general, it has been found impossible in this State to obtain satisfactory operation of such nitrification beds for plants larger than the residential size, due to adverse soil conditions. It is usually more economical and more satisfactory to employ sand filters in such cases. Since the nitrifying bacteria function by the aid of air, it is advantageous to have the absorption lines dosed intermittently instead of continuously. On the residential plant this is accomplished very satisfactorily by the flushing of house fixtures. On larger plants, in which the sewage flow is more uniform dosing tanks equipped with siphons are employed for this purpose.

Sand Filters: Sand filters consist of natural or artificially constructed beds of coarse sand about 36 inches deep, underlaid with 4 to 6 inches of graded gravel, with an underdrainage system of open joint tile sloping toward a common outlet to convey the filtered sewage away. The surface area should be about 32 square feet per person served by the plant, if the sewage has been previously settled. Beds should always be divided into two units, so that one bed may be rested, cleaned or repaired without interrupting the operation of the plant. Intermittent dosage of sewage onto the beds is necessary, so that the interstices of the sand may be filled with air between doses. This is accomplished by means of the dosing tank and siphons, as above described. The action of the nitrifying bacteria is the same as in the case of disposal by soil absorption, but, due to its facilities for control and cleaning, this type of plant may be kept in successful operation indefinitely. A very high efficiency of solids and bacteria removal may be obtained. From 90 to 98 per cent of the total organic content of sewage may be easily removed, and from 98 to 99 per cent of the bacteria. Being dosed intermittently and at frequent intervals, the sewage quickly disappears into the sand bed, leaving on its surface the sewage solids which are rapidly dried. There is no pooling, no nuisance production, and no chance of fly carriage of infection such as occur when sewage is discharged onto the surface of the ground.

Trickling Filters: This method of secondary treatment employs a bed of crushed stone, coke, lath, or brush over which the sewage is sprayed or otherwise distributed intermittently and allowed to trickle through the coarse filtering medium. Broken stone of about 1 to 2½ inches in
size is the filtering material usually employed. As the sewage passes in thin films from top to bottom of the 5 to 9 foot layer of stone it is oxidized by the aerobic bacteria and other biological forms of life which thrive in the gelatinous coating which covers the surfaces of the individual stones, the dissolved and organic matter of the sewage being removed through absorption and adsorption by the gelatinous material. Air circulates freely through the bed, induced by the intermittent dosage of the sewage from some type of dosing chamber through spray nozzles, or in the smaller plants, from a tipping trough device. The filtrate is collected by a system of underdrains extending beneath the bed. The volume of stone required is about 8 cubic feet per person tributary to the works, assuming the sewage has previously been passed through settling tanks. Humus tanks are usually placed after the filters to settle out the materials which slough off periodically from the stones of the filter. The efficiency of trickling filters is somewhat lower than that of sand filters, but with good design and operation and in combination with settling devices they should remove from 65 to 70 per cent of the total organic matter, and from 90 to 95 per cent of the bacteria.

Disinfection Devices

Disinfection: With none of the treatment works described can there be assurance that all of the disease-producing bacteria will be eliminated. As a final step in the process of treatment chlorination is often employed where bacterial purity is demanded. For effective sterilization chlorine should preferably be applied to tank or filter effluents, as solid materials in raw sewage envelop the bacteria and impair the efficiency of the process. Only very small amounts of chlorine are necessary to produce a high efficiency in bacteria removal. It may be applied either as a solution of chloride of lime or as a gas through a feeding device known as a chlorinator.

Conclusions

Sewage treatment is a highly specialized science. Rule-of-thumb methods do not apply to the design or operation of treatment works, and stock plants cannot be made to fit any and all conditions. Many factors enter into the determination of the degree of sewage treatment required, the choice of type of plant, and its design, location, construction and operation. Before proceeding with the design or construction of any type of sewage treatment plant, whether it is to serve a residence, an institution, a community, an industrial plant or a municipality, the safe practice is to consult with specialists in this line of work, men who devote all of their time to the study and solution of problems of this kind, and who have had a wealth of experience. The agency to which I refer is the Bureau of Sanitary Engineering of your State Board of Health. Their advice will be given freely and without cost. Hundreds of thousands of dollars have been wasted in North Carolina by the installation of treatment plants that were of faulty design and inadequate to afford the degree of treatment demanded of them. And more serious than the financial losses entailed is the false sense of security that has imperiled the lives of people who were thus deceived.

Some of the points to be remembered in connection with plants for the treatment of domestic sewage are:

That no type of plant can be forgotten when it is once installed. Some plants require more attention than others, but none will continue to function satisfactorily without some care and operation.

That the bacteria in a tank do not reduce all of the sewage solids to liquid and gas. A sludge residue does collect which requires periodic cleaning.

That a tank does not produce an odorless effluent. Unless a stream is available that may be used for receiving the discharge, some form of secondary oxidizing treatment must be employed for treating the settled sewage, if nuisance conditions are to be avoided. Raw or settled sewage must never be discharged onto the ground or into a dry ditch.

That a sedimentation tank of any type does not produce a purified effluent. Its function is to settle out of the sewage part of the coarser putrescible solid materials but it effects very little change in the bacterial characteristics. However secondary treatment by filtration devices produces a very high degree of bacterial reduction.

Beware of the person who says that the effluent from any treatment device is fit for drinking purposes.

That stock type of treatment plants are not adapted to any and all conditions, and when indiscriminately installed will not guarantee a satisfactory system of disposal.
July, 1928

The degree of treatment and the means for accomplishing it should be governed by
a study of the case in question.

That because state and national agencies endorse certain methods of sewage treatment
they do not endorse all appliances which are offered for sale.

That battery installations of septic tanks do not function satisfactorily, and are a
waste of money. If an institution, an in-
ustry or a community is to be served, a
single unit of adequate size should always
be installed.

That tight clay and gumbo soil are imp-
pervious substances, and cannot provide
absorption of sewage effluents. In general,
it is inadvisable to attempt soil absorp-
tion with plants larger than the residential
size. Sand and trickling filters are highly
efficient and are preferable forms of sec-
dondary treatment.

That in no case should raw or settled
sewage be discharged into a stream used
for water supply or recreational purposes.

That in sewage treatment practice sew-
age is not “purified.” One or more steps in
that direction are taken by “treating” it.

That authoritative and sound advice on
any problem of sewage treatment may be
had for the asking.

NO RABIES IN SOME COUNTIES

The weekly bulletin of the New York City Department of Health comments on
an article on rabies by Drs. Thurman R Rice and Norman Beatty, both of India-
napolis, in the American Journal of Pub-
lc Health. Sweden, it is said, has not had
any rabies since 1856, when laws against
the importation of dogs went into effect.
Ireland, which quarantines all immigrant
dogs for six months, has not had any
rabies for twenty years. Australia has
remained free through similar measures.

England, by stringent muzzling laws, rid
itself of rabies in 1902, but the disease re-
appeared during the World War when en-
forcement was relaxed. Strict measures
since the war, however, have resulted in
the absence of cases since 1922. In con-
trast to these countries, as to rabies, the
Austria and Italy, where enforcement of
laws is lax. In 1927, in New York City,
2,329 persons were bitten by dogs; 650
persons were bitten by rabid dogs and of
these six died. This was an increase of
130 per cent bitten by rabid animals over
the year 1926.—The Journal of the Amer-
ican Medical Association.

SPECIAL NOTICE

The State Board of Health conducts a
department which undertakes to supply
confidential information within the limita-
tions of such a department from the stand-
point of public health and preventive
medicine. Questions of a confidential
character which cannot well be discussed
in the pages of the BULLETIN receive atten-
tion in the form of a personal letter, when
the inquirer is particular to give his or
her name and address.

We occasionally receive an anonymous
communication, and sometimes a commu-
ication signed only with initials, asking us
to discuss various things in the pages of
the Bulletin, which we cannot do. This
notice is to request all such inquirers to
sign their name and address, mark their
communication personal, and direct it to
the Bureau of Health Education, State
Board of Health, Raleigh, North Carolina,
and every such communication will receive
confidential attention.

LOOKING BEFORE BACKING

In our opinion the proper headline over
all such newspaper items as the following,
reproduced below from the Greensboro Daily News of June 28, 1928, should be
“Look Before You Back,” and should be
posted up right by the side of the head-
light certificate on the wind shield of every
automobile driver, where he would not
be likely to forget its significance. We
are simply reproducing this item as an
illustration of similar items appearing in
the daily papers here and there all too
frequently. The item follows:

“B. E. Cleary, operator at the Southern
Public Utilities substation, while backing
his car out of the garage today ran against
his little son, Billy, three years old, knock-
ing him down and inflicting several in-
juries. He was at first thought to be
seriously hurt but later reports say the
injuries are not so serious as expected.”

If not already done, parents should lose
no time in having their children protected
against diphtheria by toxin-antitoxin be-
fore schools open this fall.
EAT PLENTY OF FRESH VEGETABLES:

- Carrots
- Potatoes
- Beans
- Peas
- Turnips
- Corn
- Lettuce

WHY, I EAT PLENTY OF FRESH VEGETABLES.

THE UNDERNOURISHED CHILD

HOW DO YOU KEEP SO HEALTHY?

AND DRINK PLENTY OF MILK, TOO!
WHERE COOLING BREEZES BLOW

These young folks in a popular Western North Carolina summer camp receive splendid instruction in healthful habits of living amid surroundings that give a maximum of sunshine and fresh air, and make body building exercise a pleasure.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may interested.

Adenoids and Tonsils
Cancer
Catarrh
Care of the Baby
Constipation
Colds
Clean-Up Placards
Chickenpox
Diphtheria
Don't Spit Placards
Eyes
Flies

Fly Placards
German Measles
Hookworm Disease
Infantile Paralysis
Indigestion
Influenza
Malaria
Measles
Pellagra
Prenatal Care
Sanitary Privies
Scarlet Fever
Smallpox
Teeth
Tuberculosis
Tuberculosis Placards
Typhoid Fever
Typhoid Placards
Venereal Diseases
Water Supplies
Whooping Cough

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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At the meeting in Raleigh last July of the State Farmers and Farm Women's Convention a representative of the Agricultural Department at Washington exhibited a moving picture contrasting in realistic detail the daily life on a good farm and living conditions in a city apartment "three flights up." This picture was shown on the campus at State College on the evening of July 25. It may have been propaganda directed toward the enterprise of keeping young people on the farm or getting them back to the farm, once they had left it. But propaganda or not, it is a great picture.

Most of the American people, especially the descendants of the original settlers, have no trouble in tracing their ancestry back only a short while direct to the soil. Anyway, agricultural pursuits and love of the soil is innate in every normal human being; because it is from the soil that we are able to sustain our lives, and up to a very few centuries ago most of the people in the world were actively engaged, one way or another, in coaxing food from the soil. Most of the wars of the world have been fought for the acquisition of lands for expanding populations.

The picture shown commenced with the title of "Her Busy Day." It pictures a young farm wife, possibly 30 or 35 years of age, busy trying to do the family ironing, cook supper for her husband (who is at work in the field) and her children, keep the chickens out of her flower beds, get some young plants transplanted in the garden, separate the milk in the milk house, and numerous other duties, all going at the same time. As was to be expected, just about the time her husband returns from the barns and the children come rolling in wanting to know what is to be had for supper, the woman collapses and expresses her over-wrought feelings on the children and her husband, winding up with a good old-fashioned cry, of course.

Among some of the comical things she has to do is, just in the middle of her ironing the electric current goes off. You see, it is a handsome farm, well equipped with a farm light plant, but the batteries had gone down or something at the wrong time. So the woman goes flying out to examine the machinery. Then she makes a direct line for the automobile. She gets down under it or around it somehow and extracts some gasoline and back she hurries to the engine that runs the dynamo that supplies the lights. And there are other and numerous comical details that are comical and funny to the outsider, but by no means comical or funny to the actor who is living through it like this woman.

In her tirade on her husband she tells him that if he does not sell that worthless old farm and get a job in the city she is soon going to be dead. She says her sister lives in the city and her sister's husband gets two thousand dollars a year and, therefore, her sister does not have to put up with any of this hard work on the farm and so on. Her husband, like all good husbands, does not try to talk back. He simply sits down on a bench by the kitchen door, proceeds methodically to get out his pipe and tobacco, and light up. The only sign of agitation is the slapping of his hat down on the bench and the wiggling of his foot in rhythmical fashion. Finally he suggests that she is over-worked and tired, and that she go to the city for a visit to her sister, incidentally also to see if she can find him that two-thousand-dollar job.

Then comes the first contrast. Her sister meets her in the city at the railroad station. She is hustled and bustled about
through the crowd. They finally find standing room on a street car and land somewhere near her sister's apartment. Her sister tells her it is a walk-up apartment. Then comes the tug of walking up three flights of stairs to a two-room-and-bath apartment. Pretty soon her sister tells her that she must go to look for her little boy, to see that he crosses the street in safety. Both of them stand at the window "three flights up" watching him coming from school, trying to dodge the automobiles. He finally makes it by a hairbreadth. Very soon the two-thousand-dollar-a-year husband rolls in. The hostess says it is about time to get dinner ready.

The farm woman, of course, calls it up—ess says it is about time to get dinner ready. Then comes the tug of walking up the rents were put down within reach of the little sitting room and the feast is unfolding some kind of a contraption in the middle of the room, which looks in the picture to be fairly comfortable.

Next day they go shopping, and as it is "bargain day" in about two dozen department stores what they see there is plenty. The following night the visitor from the farm decides that her feet hurt so bad from being stepped upon around the bargain counter, and not being used to walking on the pavements, she will never walk again. However, if she does, she solemnly declares that next morning she starts back home to the farm. Incidentally they take in an art gallery, because there is a vacant seat there and they can sit down and rest a while on the shopping tour. One picture of a farm scene by a beautiful river is labeled, "Price, ten thousand dollars." The farm woman exclaims to herself, "My goodness, I get a better picture than that from my back door at my home and it does not cost me a cent every afternoon when I want to go out and look at it."

The story of the picture, of course, ends happily. The farm woman is back in her kitchen, and it is needless to say that there is one more sure-enough farm supper served in that community one more time. She tells her husband that she would not have themselves in the terrible fix her sister and her city husband are in for ten thousand dollars a year. In fact, she says she would not leave her farm for any consideration whatever. Incidentally it may be remarked that near the close of the picture finds the pesky old hen that was scratching up her flower beds being utilized for their home-coming supper; all of which is fitting and proper, of course.

This is a great picture, and while we have few cities or places in North Carolina that are over-crowded, all of our towns fortunately being small and having plenty of room at present, we do see enough of crowded conditions to make this picture realistic. Naturally there are problems on both sides; in other words, there are thorns on all the roses around the farm, as well as some roses amid the big bunch of thorns in the cities. But to people who have lived in both city and country and who have had to make a living in each place, there can be no doubt that the farm owner of a first-class modern farm equipped with all modern facilities is living in a far healthier and happier place in which to live a contented life and to rear a family of children. Naturally if every one lived on the farm, it would be hard for
anybody to make a living, because even on the best regulated farms there are many things which have to be purchased and which cannot be produced on the farm and which cost money to buy. Therefore, there must be a market to balance things. All of this, however, is for the economists and industrialists to balance and work out.

Our purpose in describing this picture in these columns is to emphasize the necessity for a well-rounded life, and to call attention to the blessings of the people of North Carolina in the way of healthful opportunities for normal living. On the very day that we looked at this picture we saw a statement in one of the New York papers that combination of welfare organizations in that great city had just sent out a joint appeal to the newspapers of the country to broadcast the following: "New York is no place for any person unless that person has a job, friends, relatives, or a bank account." There is said to be more than four thousand separate and distinct organizations in New York City alone for the specific purpose of administering to the welfare of the public, most of which are directed toward helping the unfortunate people who find themselves in position of being unable to further compete in the battle of making a living.

One of the most valuable things in the world is good health, and we suppose one of the most important contributing agencies to good health is happiness, well being, and contentment. The advice we have to offer any reader is to look at the picture just described, if the opportunity ever presents itself.

PARKS FOR THE PEOPLE, ESPECIALLY THE CHILDREN

As we have heretofore mentioned several times, North Carolina has been slow to realize the importance of an organized system of parks and playgrounds for every village, small town, and city in the State. Quite a number of public officials in this State, including school and health officials, as well as physicians and school teachers, have been out to a series of meetings in the city of Minneapolis, Minnesota, this year. There have been so many national and international meetings at that place this summer that considerable interest has been aroused as to why a city of four hundred and fifty thousand people in that section of the country should draw so many big attractions. This curiosity and interest has led us, along with many other people, to inquire into the facts of the situation. Among some of the meetings in that place this summer may be mentioned the American Medical Association, the National Educational Association, and the International Rotary Meeting, to say nothing of numbers of smaller aggregations.

The returned travelers that we have talked with have been enthusiastic about this city of the far mid-west, heretofore known only to most people as the place where they manufacture certain kinds of flour, much of which has always been sold to the people of North Carolina, instead of our growing our own wheat and making our own flour. These visitors emphasize one particular item about Minneapolis; that is, the fact that it contains one hundred and thirty-one public parks. One of these parks, near the center of the city, contains six hundred and eighty-one acres of beautiful groves, gardens of flowers, including wild flowers and formal gardens, and also numbers of bathing pools for the benefit of the people of the city. One natural attraction of the city, of course, could not be duplicated in many places. That is, it lies in a land surrounded by ten thousand lakes, which, of course, offer a multitude of attractions for summer visitors. Inside the city it is said there are six large lakes. There are sixteen municipal golf clubs, in addition to the numbers of country clubs and other private clubs having golf courses.

These things, we think, are sufficient to emphasize a part of the attractive drawing power of Minneapolis. Of course, the business interests, the central location, for that part of the country at least, and the numerous fine hotels, together with one of the greatest auditoriums in the country, make it an ideal place for big assemblies. Naturally the State of North Carolina and its small cities and little towns cannot hope to compete with a city of that kind, which has been an industrial center for more than fifty years and whose business interests were greatly advanced as the result of the Civil War, wherein North Carolina was prostrated for at least fifty years following that war. But the cities and towns of North Carolina do have the land and enough of it is cheap land, comparatively
speaking, and if our people had the will and vision to make these provisions now, while it can be done, fifty years from today great national and international associations would be coming to some place in North Carolina for their meetings.

For so long a time this State has been a rural State, with very small aggregations in towns and cities and even in larger places, with plenty of woodland and natural forests and streams surrounding all our places within easy access, that nobody has given the provision of the future much thought. We should realize today, however, that North Carolina is gradually being transposed from a strictly rural agricultural State to an important industrial State. This transition is slow and gradual, which is all the better; but it is none the less certain. The industrial population of the State is growing more rapidly than the strictly farming population, relatively speaking. In the old days, when the clerks, what few there were, in the stores worked from daylight to ten o'clock at night, they all felt like staying in bed Sundays, and they got plenty of exercise walking from their stores to their homes in the mud and slush. In those days there were no street paving, no passable streets in bad weather, no automobiles and no street cars. When the land was the most plentiful thing at hand, there were no restrictions as to trespassing on property, and everything was free and open. There was no necessity for such things as parks and playgrounds. Today, however, with the largely increasing industrial population working in the factories and mills on eight-hour or ten-hour schedules, with the rapidly growing number of stores and garages and things of that type, employing a greater and greater number of people, all of them working according to restricted schedules, eight- or ten-hour days, in confined atmosphere, it is imperative for the health of these people and for their contentment that they have places of recreation which will be conducive to their good health and happiness. The universal use of automobiles makes the matter of reaching such places in the evening, after the day's work is done, a small matter for nearly everybody.

The United States Department of Labor has recently made public a report setting forth the facts elicited from a survey of the system of parks throughout the country. The report says that of all the groups of cities in the country surveyed they find that more than one billion dollars of capital is invested in recreation parks, exclusive of the great national parks owned and under the control of the Federal Government. They say that more than one hundred million dollars a year is spent for the maintenance of these recreation places in the country. While no particular states are emphasized as being deficient in this regard, the name of the State of North Carolina is notable for its absence in the enumeration of states having ample parks and playgrounds. The report declares that a system of parks in cities throughout the country, even with the investment of one billion dollars, is at present inadequate. "The welfare of children and working people," this Government report says, "is seriously affected by the lack of facilities in a number of states." This report emphasizes the great park development in the state of Minnesota, the report emphasizes the fact that the city of Minneapolis has approximately fourteen per cent of the entire area of the city in park property, and leads all other cities of the country except Denver, Colorado, and Dallas, Texas. The latter two cities have most of their park acreage outside of the city limits.

While it is very desirable that parks shall be set aside and developed within the city and town limits, where it is possible this is not at all necessary in this day of automobile travel over paved roads and streets. The purchase of areas outside of the city limits is practical and plausible and constitutes a wise procedure. Such land is much cheaper than that inside the city limits; and the example set by Essex county in New Jersey, which, as far back as 1895, started the first county park system in the country, might be followed with great advantage in this State, where the county is the unit of so many of our activities. The idea started in New Jersey was slow to spread for the first twenty-five years, but since 1920, according to the Federal Bureau Report aforementioned, there are quite a number of county park systems started in different sections of the country. The Bureau Report says that park properties to date have been acquired outside of the cities by one hundred cities in the United States. The largest city park in the country outside of the city limits is owned by Phoenix, Arizona, and comprises fifteen thousand and eighty acres, this park area being situated in one
body of land. It is said that Denver, Colorado, owns over ten thousand acres in mountain parks outside of the corporate limits.

The Labor Bureau Report mentions the fact that the early idea in the minds of the builders and planners of public parks was that of "a place where urban inhabitants could obtain the recreation coming from the peaceful enjoyment of its rural, sylvan, and natural scenery and character." Now, however, after the lapse of about three quarters of a century of park development in the nation, the term "park," says the bureau, "has come to mean any area of land or water set aside for outdoor recreational purposes, whether it be recreation of a passive or an active nature, or of any of the degrees between those two terms, and that the recreation is expected to come in part at least from beauty of appearance."

From the standpoint of practical common-sense necessity, the development of sufficient areas of parks and playgrounds is undoubtedly necessary to provide swimming pool facilities, which should be clean and easily available on every hand for any person who wants to use them, especially young people. In the past the cities and towns had no sewage disposal plants to pollute even the larger streams, let alone the smaller. The population was sparse enough to permit bathing facilities au naturel. Such conditions, however, no longer prevail; and yet of all outdoor exercises swimming is one of the most healthful practices and one of the most desirable accomplishments any child can be taught.

Another practical demand is concerned with the provision of ample ball ground facilities for growing boys. Every town in the State, large and small, should have ample facilities in various parts of town, or in the suburbs immediately adjoining, to provide plenty of room for baseball, football, and basketball. It is hardly necessary to stop here to record any argument in favor of the desirability of teaching growing boys the habit of systematic organized play, because everybody should realize this without any second thought.

Another practical necessity is the facilities for golf. In most of our places the only facilities for this fine outdoor game, so necessary for sedentary workers, is comprised in the private clubs, which are not available to the public.

Tennis courts for women workers in the factories are just as necessary for the woman who works in a cotton mill or tobacco factory or the stenographer who sits at her desk all day as it is for the college girls. Golf or baseball or some outdoor game, swimming, to say the least, is just as necessary for the male factory worker during his time off as it is for the banker or lawyer. Therefore, a system of parks should embrace ample facilities for golf grounds, baseball and football areas and swimming pools. Of course, it goes without saying that the original ideal of parks and pools and running water, with trees and wild flowers as well as formal gardens, should be amply provided for in any system worthy the name of parks.

We hope that the community leaders and the people of vision and public spirit in every town and city of North Carolina, as well as the villages and even in the country places, will put their shoulders to the wheel and help develop a system of parks for this State which in time will not be second to the facilities of any state in the Union.

RAISING CHILDREN—THE PENDULUM SWINGS

We have before quoted Dr. John B. Watson of New York, who is the chief apostle at present in this country of the Behaviorist School of Psychologists. Doctor Watson is a specialist in psychology and the chief champion in the field of "an all-physical psychology." He is the author of several books on the subject, among the latest of which may be mentioned "The Ways of Behaviorism," which is published by Harper; and "Psychological Care of Infant and Child," published by Norton.

In Science News-Letter of July 21, Doctor Watson is quoted as follows:

"No one today knows enough to raise a child. The world would be considerably better off if we were to stop having children for twenty years (except those reared for experiment purposes) and were then to start again with enough facts to do the job with some degree of skill and accuracy. Parenthood, instead of being an instinctive art, is a science, the relation to his own daily life seems decidedly remote."

"Will you believe the almost astounding
truth that no well-trained man or woman has ever watched the complete and daily development of a single child from its birth to its third year? Plants and animals we know about because we have studied them, but the human child until very recently has been a mystery. Radium has had more scientific study put upon it in the last fifteen years than has been given to the first three years of infancy since the beginning of time. How can we get the facts on how to rear children unless we make the studies necessary to obtain them? Most mothers perhaps feel quite naturally that all infant and childish activities, whether ‘good’ or ‘bad,’ are due to the unfolding of the inborn equipment of the child; and that they as parents have not much to do with the process of growth.

“But in the last few years there has come a social Renaissance, a preparation for a change in modes, a scrutiny of age-old customs that bids fair to become much more of an epoch in history than the scientific Renaissance which began with Bacon in the 16th century. This awakening is beginning to show itself in mothers who ask themselves the question, ‘Am I not almost wholly responsible for the way my child grows up? Isn’t it just possible that almost nothing is given in heredity and that practically the whole course of development of the child is due to the way I raise it?’ When she first faces this thought, she shies away from it as being too horrible. She would rather load this burden upon heredity, upon the Divine shoulder, or upon any shoulder other than her own. Once she faces it, accepts it and begins to stagger under the load, she asks herself the question, ‘What shall I do? If I am responsible for what this tiny being is to become, where shall I find the light to guide my footsteps?’ When such thoughts drive is it any wonder that there has been recently an almost frantic interest in what the laboratories of the behaviorist psychologists have to say about infant culture?”

From the time wherein the memory of man runneth not to the contrary it has been assumed as one of the cardinal principles in raising children that no matter what kind of abnormal traits the child might develop, no matter what his environment, no matter much what his heredity, the average parent simply blamed it on heredity and let it go. The parent who simply looked upon any special trait in his child as the normal development, as if by instinct and, therefore, to be expected on heredity grounds, has constituted a big majority of the parent classes. Doctor Watson is certainly taking the skin off some of this complacency. How it will all turn out we do not propose to prophesy: In any event, the product under such a system could not be much worse than some of the exhibits we see all around us. Thus the pendulum is swinging, if Doctor Watson and his associates can swing it from the all-heredity alibi across the scale to the no-heredity proposition.

We believe that the heredity alibi has been very much overplayed, and we have said so in at least one article in these pages, but at the same time we believe that the no-heredity basis of rearing children can also be equally overplayed. We believe there is gross ignorance existing on the part of many parents as to just how to deal with the behavior of their young children manifested in many difficult ways, difficult for the parent to comprehend. We believe that a common-sense, middle-ground system of education and instruction for such parents will eventually be recognized as the logical procedure and the method that will promise the best results.

To indicate that we are actually making progress we would like to cite one simple illustration, try it out anywhere you may. A half century ago, or even a quarter of a century ago, a mother of a two-year-old baby could publicly spank the baby and it excited no comment out of the ordinary whatever. It was taken as a matter of course. Today if a mother wishes to get mobbed let her pick up her infant, under two years of age, say, and administer a spanking in public. This state of mind in our opinion represents progress.

Some mothers undertake physical correction of their infants even now, but such mothers are becoming fewer. Many mothers now know that to punish their very small babies, under two years of age, say, by spanking or slapping simply makes bad matters worse. The administration of such punishment, if repeated many times, simply has the effect of producing tantrums or other manifestations of violent temper, and a thoroughly bad time is had by all concerned.

The best cure for such a habit, after it is established, is not to punish a child of that age, when beginning one of the tantrums, and especially if occurring around...
mealtime or in the evening just preceding bedtime for the baby. Not only psychologists but good physicians every day, when consulted about such conditions, advise the hot bath with thorough diversion of the baby's mind. Toys may be played with in the bath tub until the baby forgets its trouble, gets sleepy, and is immediately put to bed, where it generally sleeps soundly all night.

If the behaviorist psychologists can get across some practical advice in language that the average mother can grasp, greater and more rapid progress in the satisfactory raising of children will be accomplished. Anyhow, Doctor Watson stands near the top of his profession. He is a brilliant thinker and writer, and many of his conclusions are safe and sound, and we would advise our readers who are interested in the raising of children to read any of Doctor Watson's work that may come their way.

Note: A woman friend to whom the foregoing article was shown makes the sage remark that in her opinion and according to her observation children are being reared better today than ever before. She asks the pertinent question, "Why not let the pendulum swing on just as far as Watson and his bunch of psychologists can push it?"

Well, why not?

"THE MAGIC HORSE COLLAR"

A friend in Greensboro sends along to the State Board of Health a circular letter which he received from the promoters of what the American Medical Association Journal designated in an article several months ago as the "Magic Horse Collar."

This outfit, doing business from Los Angeles, California, as company base or headquarters, is undertaking to sell now in this section an apparatus which they call the "New Super I-ON-A-Co." This is a kind of a magic proposition in which the promoters are utilizing the same kind of "magnetic flux" to quote the Journal, which "differs not at all in kind from the magnetic flux produced by the earth, a flux in which every one who lives on this terrestrial sphere moves and has his being."

As the Journal says, this is a kind of a magic horse collar, and while it sells for $3.50 cash, in the language of the Journal, "as a cure for any physical ailment it is not worth five cents." It seems that a former socialist, who has run for office in California, New York City, and England, unsuccessful, of course, in all the efforts, who has been a socialist crusader, a gold miner, and so on, and who has made some money in the real estate business, has blossomed out as the inventor of this machine through which he proposes to revolutionize the whole field of therapy.

This outfit has been investigated thoroughly by the Journal of the American Medical Association, by the Public Health League of the State of Washington, one of the officers of that league being the President of the Washington State University, and which is composed of college professors, business men and bankers, pharmacists, dentists, physicians, newspaper editors, club women, as well as normal school and high school professors and principals.

The aforementioned league in cooperation with the Better Business Bureau of Seattle investigated this outfit and published a report on it. The report of the committee was submitted in the following language, which was published in the Journal of the American Medical Association in its issue of January 22, 1927, as follows:

"The report of this committee was, in effect, as follows: The I-on-a-co is simply a coil of insulated wire (about six and one-half pounds of 22 gage, worth about $3.50) about 18 inches in diameter, with a plug that permits the coil to be attached to an electric light socket. There is a smaller coil that plays no part in the alleged curative use of the I-on-a-co but plays an all-important part in the magical features of the scheme by impressing the purchaser with the marvelous potentialities of the larger coil. The small coil is also of insulated wire (about one pound of 18 gage, worth about 60 cents), has its two free ends attached to a miniature light socket containing a small flashlight globe. When the larger coil is plugged into an electric light socket where there is an alternating current (the kind of current that is found in the great majority of city lighting systems), there is, of course, generated within the large coil a weak fluctuating magnetic field. This will cause the flashlight globe in the small coil to light.
up when the small coil is brought in close proximity to the large coil. This phenomenon, while elementary to a degree to those who know anything about electricity and magnetism, furnishes for the uninitiated that element of mystery which is so necessary to the successful exploitation of any alleged cure for human ailments.

"The I-on-a-co is used by placing this magnetic horse collar over the neck, around the waist, or around the legs of the person who thinks he is going to be helped by a piece of buncombe of this sort. It sells for $58.50 cash or $65 on time. The cost of the materials for making an I-on-a-co should not exceed $5. As a cure for any physical ailment it is not worth five cents."

**TULARAEMIA—A NEW AMERICAN DISEASE**

As it will soon be open season for Chatham county rabbits, and the products of other counties as well, to be coming on the market, we think it wise and timely to call attention again to a new disease which is said to be strictly an American disease. This disease is known as Tularaemia because it was first discovered in Tulare county, California, several years ago. It will be remembered by some of our readers that we republished in the February issue of the Bulletin an article entitled "Seasonal Prevalence of Tularaemia." This article was reproduced from the United States Public Health Service. We think it necessary, however, to repeat quite a bit of the information contained in that article.

At the meeting of the American Medical Association in Minneapolis in June the Committee on Scientific Awards of that great association awarded to Dr. Edward Francis of the United States Public Health Service a gold medal in recognition of his distinguished work in discovering the principal facts about this disease. The Committee on Awards regards the disease as a new disease of man, and considered the work of Doctor Francis the most important medical work on the American continent of the year. We can do no better, therefore, than to quote quite freely from the bulletin of the United States Public Health Service on the subject, and so we take pleasure in letting the brilliant writer on the staff of the United States Public Health Service at Washington finish this article in an exceedingly interesting and instructive discourse on the subject, which it would be well for every person in North Carolina to read.

Let it be distinctly understood that rabbit meat will be just as safe and just as wholesome as it ever has been provided the rabbit meat is thoroughly cooked before eating, and provided the raw meat is not promiscuously and carelessly handled, and with the additional and immediate provision that the person dressing the rabbit, either for domestic use or the market, should be exceedingly careful in handling the carcass. The disease has been reported up to date in all except six states of the Union. It is spreading and there will be probably many more cases reported in North Carolina this year than heretofore. Read the Public Health Service comments and have "rabbit fever" in mind this fall and winter in order to guard against carelessness, and no harm should come to anybody.

"Tularaemia is primarily an epizootic of wild rabbits and is caused by *Bacterium tularense*, which affects the liver and spleen, producing decay of the tissue cells in these organs shown by innumerable white spots from the size of a pin-point to that of a pinhead to be studded over this surface and resulting in death. Of the wild rabbits offered for sale in the Washington, D. C., market Doctor Francis examined the livers of 1,000 and found ten or one per cent, to be infected with virulent *Bacterium tularense*.

"Man readily inoculates himself with the disease while dressing rabbits, the infection passing from the rabbit's liver through some wound on his hand, resulting in an ulcer on the hand, enlarged glands at the elbow or in the arm pit, and fever which confines him to bed for two or three weeks.

"Cooks, hunters, housewives, and market men are often infected in November, December, or January, when, owing to relaxation of the game laws, it is permitted to hunt wild cottontail rabbits for food. Persons who skin and cut up jack rabbits for fish bait, coyote bait, fox feed, chicken feed, hog feed, dog feed, or for the market, frequently become infected.

"Tularaemia is 'made in America' and has been staged from start to finish by an all-American cast. The discovery of a new disease is an important milestone in medi-
In the history of human medicine there is only one instance in which American investigators alone have discovered a disease of man, isolating its causative agent, determining its sources of infection and its modes of transmission to man, describing its symptomatology and pathology, and otherwise elucidating the many essential problems connected with the complete knowledge of a disease—that instance is the story of tularemia.

The disease was first discovered in a ground squirrel in Tulare county, California, in 1910, by Dr. G. W. McCoy, of the United States Public Health Service. It became engrafted into the jack-rabbit population of the West, and then, as a disease of wild rabbits and of man it advanced steadily across the Continent, invading State after State until now, in 1928, there remains only a solid block of six unin­vaded States composed of the New England group.

Although a new disease of man, tularemia has now been recognized in 42 States of the United States, in the District of Col­umbia, and in Japan, but in no other country. Of 614 reported cases, 23 have terminated in death.

Doctor Francis himself fell a victim to tularemia while studying his first case of the disease in Utah. He is now devoting himself to its prevention and cure.

"Prevention is the key-note of modern medicine. Keep your bare hands out of a wild rabbit—one per cent of them are infected with tularemia. Rabbit meat, thoroughly cooked, is harmless for food, because a temperature 133° F. kills the infection. Rubber gloves afford complete protection to those who must dress wild rabbits.

"Beware of the wild rabbit which the cat or dog has caught—or which a boy has killed with a club—it is probably a sick rabbit. A warning to the poor sportsman is necessary. He should not shoot the rabbit that is on the point of his gun. Let him take his rabbits on the run at twenty-five feet distant and the chances will be lessened that the rabbits he bags will be sick with tularemia."

THE EFFECT OF DIET ON RACIAL CHARACTERISTICS

In recent months quite a few scientists of international reputation, including at least one member of the International Health Board staff, have cautiously advanced the idea that the underlying origin of many characteristics of the different races of the earth may be based primarily on the kind of food consumed by the people. It is a well known fact that some races are a good deal smaller in stature than others. There are many other racial characteristics present among different nations, which serve to differentiate con­cisel­ly such people from other races having different characteristics. A great many causes have been outlined as producing these differences, some of the causes, of course, going back to the origins of different people of the earth, in which thousands of generations of complex heredity plays its part. Some of the causes have been attributed to climatic influences; some to the effects of wars and diseases among primitive peoples, and many other things.

We have long known about the effect of such things as balanced rations in the animal industry. It has long ago been definitely determined that food is as much a factor in the successful raising of live stock, poultry, and so on as the mating and breeding of proper strains. It would certainly seem from a common-sense stand-

point that a special adherence to certain forms of diet through many generations would have its effect on the stature and other characteristics.

Now that we are beginning to know something of vitamins and more about proteins and fats and carbohydrates and so on, experiments along this line should begin to bring definite results within two or three generations at least. The New York Times cites the example of an experiment commenced in Japan a number of years ago, in which a group of Japanese children were placed on a varied and balanced diet and the control group of children of like ancestry, like habits, and from the same class of people continue to consume what might be called the "national diet of Japan." The group of children who have adopted the more varied and abundant and better balanced diet are said to average at present several pounds heavier and some inches taller than the other group of children.

There are naturally a thousand and one agencies that contribute to such things as longevity, stature, and the many things that constitute racial characteristics; but experiments along this line will be watched with much interest, and should be produc­tive of a vast amount of new information in the progress of mankind.
AN EXTREME EXAMPLE OF MALNUTRITION

On the 24th day of February, 1927, Dr. E. R. Hardin, the Robeson county health officer, looking out of his office window in the courthouse at Lumberton, observed a child in company with its parents and brothers and sisters. The child was so frail and evidently in such bad shape physically Doctor Hardin made an immediate investigation, the result of which unquestionably saved the child's life. The child, who was the daughter of a tenant farmer in one of the rural sections of Robeson county, was ten years old at the time and weighed only twenty-eight and one-fourth pounds. Through permission of the parents we are publishing some photographs of the child, the first one noting the extreme condition which was present when Doctor Hardin first discovered the condition. The child gave a previous history of having had a possible attack of pellagra some years previously. The child was said by the parents to have a peculiar appetite, refusing to eat much of the ordinary diet set before her.

To make a long story short, through the efforts of Doctor Hardin and his county nurse, Mrs. Sloan, and through the generosity of Dr. J. B. Sidbury, of Wilmington, funds were secured sufficient to send the child to the James Walker Hospital at Wilmington. Mrs. Sloan carried the child to Wilmington on March 12, 1927. Doctor Sidbury cheerfully contributed his service, and under his expert care, together with the excellent hospital attention, the child soon commenced to improve. On reaching the hospital the little girl was so near death's door that several blood transfusions had to be given before a beginning could be made toward correcting the child's nutritional defects. At the end of seven weeks' stay in the Walker Hospital she weighed forty-eight pounds. Thus it will be seen that she gained almost one hundred per cent in weight in this short time. Near the close of the year 1927, Doctor Hardin made another examination and found the child apparently well and happy. Reports to the State Board of Health concerning this child, coming through the Robeson county health department, as late as June of this present year state that the child is now in excellent health and is growing rapidly.

The foregoing is, of course, an extreme case of what a deficient diet may do to a child. But there is little doubt that many deaths of infants and young children are reported from other diseases which are, of course, present as actual terminal conditions, when, as a matter of fact, the primary cause may be found to be, as was the case with this child, in a prolonged deficiency diet. It is not only necessary for parents to provide proper food in assimilable form for their young children, but it is equally as necessary for them to insist on the child's eating a sufficiency of such food every day in the year. Naturally the greatest problem is in caring for what doctors know as "border-line cases" of malnutrition resulting sometimes, but not always, in underweight, but which condition is not sufficiently accentuated to cause the parents to secure the advice of the family physician, and, therefore, neglect is prolonged, with all kinds of untoward consequences to the child resulting later on in life.

Fortunately for this particular child Robeson county had a modern health department with an alert and competent physician in charge. But no matter what facilities a town or county may have for the protection of the health of the children, these organizations can do nothing for children unless they have the co-operation of the parents. Indeed, it is necessary that the parents take the initiative in requesting the assistance of the health department when necessary for the protection of their children's health. A health officer cannot advise people about problems of community health without being consulted any more than a practicing physician can assume responsibility for the care of a patient until he is consulted and requested to treat the patient.

MANY ARE CALLED, FEW EXPOSING

Friends are invited to call on Jacob Caster, who is down in bed at his home with the smallpox.—Beeville, Texas, Banner.

Lady (who has hired a new chauffeur): "What is your name?"

Chauffeur: "Clarence, man."

Lady: "I never call my chauffeurs by their first name. What is your last name?"

Chauffeur: "Darling, mam."

Lady: "Drive on, Clarence."—Exchange.
MALNUTRITION—AND ITS CORRECTION

Case of extreme malnutrition. Side view of child ten years old, weight 28 pounds.

Same child with picture showing front view, emphasizing extreme malnutrition.

Ten weeks after Doctor Hardin, Robeson County Health Officer, and his nurse, Mrs. Sloan, had placed the child under the care of Doctor Sidbury at the James Walker Hospital in Wilmington, the improvement here shown had occurred.

In less than three months here is the child back home in a Robeson flower garden, weight about fifty pounds. The picture shows a vivid example of the application of scientific care and practical humanitarianism.
TYPHOID NOW ATTACKING MORE CHILDREN THAN ADULTS IN PROPORTION TO POPULATION

A Western health officer points out that in recent years the ratio of children having typhoid fever in comparison to adults is increasing. This health officer states that in one Western state in 1927 about one-third of all typhoid patients were among children between five and fourteen years of age.

The reason is significant. It has been observed as a tendency in North Carolina since the beginning of the excellent work of safeguarding our State's drinking water supplies carried on by the State Laboratory of Hygiene and which was fully under way between 1915 and 1919, during which years very great reduction in the general typhoid rate was accomplished. Beginning in 1914 and reaching the peak in 1915 and 1916 great numbers of people were vaccinated against typhoid. A larger proportion of adults were probably protected through vaccination. But back to the reason given by the health officer alluded to, who states that "In part, the increase in percentage of cases in the younger age group may be accounted for in that children are largely milk drinkers and they constitute the majority of cases in a milk-borne infection." The conclusions are evidently sound. The two great common modes of infection in typhoid are water and milk. With a safe water supply which protects all, adult and young person alike, the adult not being a consumer of raw milk to the extent of the child, the children, therefore, feel the first impact of a milk-borne epidemic.

The United States Public Health Service reported twenty-five distinct milk-borne epidemics occurring in the United States in 1927. In these outbreaks of milk-borne typhoid or paratyphoid nearly five hundred people had the disease and nearly forty of them died. Fine progress in typhoid fever control has been achieved throughout the whole country in recent years. We have reason to feel proud of the record in our own State. But if we are to remain safe and secure we must not relax in any way our vigilance. It is probably easier today than ever before for a disease like typhoid fever to occur and our only safety is in constant and unrelenting efforts to control every possible mode of infection. No matter what kind of laws and ordinances we have for the production and sale of such articles of daily food as milk, it is all worthless if not enforced with care down to the last individual engaged in handling milk in any way whether for home consumption or for market.

The most disastrous epidemic recorded in recent years was that occurring during the first six months of 1927 at Montreal, Canada. More than five thousand people had typhoid and more than five hundred of them died. This was purely a milk-borne infection. It started all because a typhoid carrier was working in one of the dairies, and through the carelessness of the officials in charge of one of the milk pasteurizing plants some of the milk from this dairy was allowed to go on the market not properly pasteurized.

The chief safeguard for the children as well as adults is the use of properly pasteurized milk when using market milk. Home produced milk for individual family use can be safeguarded through the exercise of especial care and cleanliness; and a strict rule against any strange help being utilized in milking or the handling of milk until such persons are carefully examined by the family physician or the health officer and also vaccinated against typhoid. People should not forget the essentials of protection against typhoid:

1. Clean food.
2. Pasteurized or otherwise safe milk. (Do not be afraid of milk. It is one of our most necessary and dependable articles of food and nearly all of us need to consume more of it. But be sure it is safe milk.)
3. Pure and unpolluted drinking water.
4. Adequate sewage disposal.
5. Typhoid vaccination.

MISUNDERSTOOD

My daddy's cross at me
'N all cuz uv some old beans
He planted several weeks ago,
'N I just think he's mean
Cuz I was jest a-helpin' hir
This mornin' when I found
'Em all a-poppin' up
'N pushed 'em in tha ground.

—The Illinois Arrow.
DEATHS IN AUTOMOBILE ACCIDENTS

The July 25 number of the University of North Carolina News Letter contains an article by Mr. P. W. Wager of the Department of Rural Social Economics. Mr. Wager discusses the causes of the terrific toll in a manner which so nearly coincides with our own opinion as to the majority of accidents that we are re-publishing below the article as it appeared in the News Letter. Mr. Wager points out that it is the drunken, careless, criminal driver which so imperils traffic on the public highways.

One of the tragedies in the large number of deaths due to accidents is the fact that a majority of people losing their lives as the result of automobile accidents are careful people or children or old folks, and are people that in no way contribute by any fault of theirs to the accident which causes death to so many of them. The fact of the whole business is that the drunken and careless and reckless drivers are chiefly the ones who are causing large numbers of accidents and deaths on the highways. At least some of the newspaper editors of the State have recently suggested that the best medicine for a drunken or reckless automobile driver would be to take away forever the privilege of driving automobiles any more on the highways of North Carolina. It seems that such a law could be enforced, and there could be no doubt but that a reduction of accidents would be sure to follow the rigid enforcement of such a procedure. Of course the judges of the courts would reserve the same rights that they now have to impose prison sentences, or other measures of punishment, which, in the wise discretion of the judges, might seem necessary in dealing with individual cases.

Mr. Wager's article follows:

A TERRIFIC TOLL

Last year 22,000 people were killed in automobile accidents on the highways of this country. Many of these people, probably most of them, were innocent of recklessness or daring on their own part, victims of another's recklessness or criminality. This terrific toll of lives is wicked and unnecessary.

The American people are not going to give up their automobiles; they cannot if they wished to. Life has been re-organized in terms of the automobile—though not in one particular. We have not limited their use to those who can be trusted with them. We no longer permit anybody and everybody to go armed. We have taken guns away from the intoxicated, the neurotic, the criminal. An automobile is also a deadly weapon—the court has so declared it. Its use should be limited to those who are normal, sober, and law-abiding. Yes, even more than that—those who are free from any charge of being reckless or inconsiderate. Careful drivers, respectful of the rights of others, ought not to have to share the roads with drunken and dare-devil drivers. The time has come when the right to drive a car should be restricted to those who can be depended upon to cooperate in making the highways safe.

RESTRICT LICENSES

This means that a driver's license should be granted only after the applicant has passed a thorough driving test. It means, too, that a license once granted should be revoked if any complaint is brought that the operator has driven a car while under the influence of liquor or has driven in a wild and reckless manner. Finally, no license should be granted in the first place to persons having a criminal record. To grant one is to arm a criminal with a deadly weapon. Who are the hit-and-run drivers? Are they people with reputations for honesty and moderation in other respects? Certainly not. They are people with criminal records or at least criminal tendencies. Who are the road hogs? They are not people who are generous and fair and cooperative under all other situations. All of which means that the persons who are causing the accidents on the roads are to a large extent persons of whom such things might be expected. Many of the 511 lives lost on the highways of North Carolina last year could have been spared if we had refused to license the vicious and the intemperate.

There are dangerous drivers, however, who are neither mean nor intemperate. They are those who lack the steadiness of nerve, keenness of vision, and quick response necessary to make good drivers. These should be content to ride with others at the wheel.

North Carolina's record last year was a little better than for the previous year.
It was one of seven states to decrease—though ever so slightly—the toll of lives taken by automobile accidents. Everybody in the state ought to co-operate in the effort to bring down the figure for the current year.

Nobody intends or desires to kill another person. He has a horror of doing so. Yet by failing to keep brakes tightened or headlights adjusted many produce this unfortunate result. Again, the failure to report one who violates the traffic ordinances, which are no more than the rules of fair play, may be to contribute to the death of a neighbor's child. When it is no longer popular to dilate on the speed record which one has made or the narrow escapes which he has had, there will be fewer accidents. Only a fool jeopardizes the life of his friend, and if men, otherwise sensible, play the fool, their friends should not hesitate to remind them of their folly.

DEATH RATE FROM PELLAGRA HIGHER THIS YEAR THAN LAST

For the first six months of the present year three hundred and five deaths occurring in the State of North Carolina from pellagra were reported to the Bureau of Vital Statistics. For the same period last year two hundred and ninety-one deaths were reported.

It is now about as well established as anything can be that the chief basis for the existence of pellagra is to be found in a deficiency of certain kinds of food in the ordinary daily diet. In a communication recently received by the State Health Officer from the Surgeon General of the United States Public Health Service the following statement is used:

"As you are doubtless well aware, this is the season of the year when pellagra is likely to be most prevalent and most severe. It has occurred to me, therefore, that it would be helpful as tending to minimize the numbers and severity of cases of the disease if health officers throughout the States where pellagra is more prevalent would bring to the attention of local health officers and the public the great desirability of special attention to their diet at this season. In that connection it is believed that particular emphasis might advantageously be laid upon the fact that dried yeast has proved to be very efficient in the prevention and treatment of this disease."

In addition to the foregoing the Surgeon General states that "the prevention of pellagra is relatively simple. The disease also responds readily to proper treatment."

The opinion of most of the practicing physicians in North Carolina with whom we have discussed this question seems to be that whether or not the disease responds very readily to treatment depends altogether on how soon the diagnosis is made and the proper treatment instituted and how well the patient carries through the physician's instruction. With a death rate in 1927 in North Carolina of more than twenty-five per hundred thousand population, three times as high as the typhoid death rate for the same year, it would seem that the treatment is not so simple as might be supposed. The fact is, as every well informed experienced practicing physician in this State knows, that there is a vast gulf between the theory of treating a disease and the facts of getting the proper treatment executed in the face of economic obstacles, to say nothing of the ignorance of so many people on the whole question of the care of the sick.

The Surgeon General states further in his communication that "studies conducted by Dr. Joseph Goldberger and his associates of the United States Public Health Service have shown the great value of the preventive and curative action of dried yeast in this disease. Either the so-called brewers' or the bakers' yeast may be used. They are believed to be of substantially equal efficacy. The daily dose of either of these is one ounce for individuals of 12 years and over, and one-half of that for those under 12 years of age. The powdered yeast may be taken in any way that may be found convenient, as in a glass of water or in syrup of any acceptable flavor. It is important for those who are so situated as not to be able to procure liberal supplies of lean meat, milk, and an abundance of fresh vegetables, to include yeast in their daily diet as a preventive of the disease."

In the matter of treating disease it has always been an established policy of this Board to leave that proposition entirely up to the practicing physicians of the State. In other words, we think it best for all
concerned to leave the individual treatment of any disease to the attending physician. In the first place, this is the necessary procedure, because no one but a competent physician can make a diagnosis, and the first obligation of every physician is to treat the various ailments of his individual patients. His duty is not only to treat disease but to strive to prevent as much illness as possible; but his application is individual. After all, the treatment of disease and the prevention of disease comes right down to the individual. An individual human being is the unit of society. We know now-a-days that disease is transmitted from person to person, and not out of the clouds or from the air as used to be imagined. Therefore, to use an old familiar simile, the human health chain is just as strong and no stronger than the most unhealthy link in it.

The chief importance of Surgeon General Cumming's communication in this instance is placing the stamp of authority on the great United States Public Health Service on the value of yeast in preventing and curing pellagra in the unqualified statement that any of the different brands of yeast now available to the consuming public through the grocery store, the drug store, and so on are equally efficacious, the quality and reliability of the manufacturer of course considered, in the prevention and treatment of pellagra. This, to our mind, represents a considerable advance, and we are pleased to pass along to all our readers and to the health officers and physicians of this State this important information from Surgeon General Cumming's office.

The prevention and control of pellagra is one of the major public health problems in North Carolina today. In the opinion of this writer there is no question before the public health officials of this State in the whole field of disease prevention and control that is more important than this question of the high pellagra death rate now existing in our State. It does seem that the prevention and control of a disease which is so definitely understood as is the prevention of pellagra could be practically applied to the great saving of so many of the lives of our citizens and to the prevention of the large amount of suffering endured every day by the great number of people sick at any given moment from this disease. It is a challenge to every health officer and every physician of the State. We hope that the challenge will be accepted and no effort relaxed until the disease is eradicated from within the confines of the State.

**FIRST-AID METHODS FOR TREATING THE INJURED**

Surgeon General H. S. Cumming, of the United States Public Health Service, advises that everyone become familiar with first-aid methods for treating the injured. First-aid has been defined as the temporary care of an injured person by simple, commonsense methods, based on principles of medicine and surgery, that may be applied easily by persons not professionally trained in those subject. It should be noted that the work of first aid ceases when the injured person has been turned over to the care of a physician.

When it is remembered that over 28,000 persons are killed in the United States each year by traffic accidents—that is, by automobile, railroad, street car accidents, etc., over 13,000 by falls, more than 6,000 each by burns and drowning, and more than 27,000 by other accidental means, or a total of more than 50,000 persons killed and over two million additional seriously injured by accidents in the United States each year, the importance of first-aid care is at once obvious. The above does not include the minor injuries, for which there are no statistics at the present time.

The common injuries include wounds with bleeding and possible infections, dislocation and fracture of bones, burns, including those caused by chemicals and asphyxia, or cessation of respiration. The principles upon which first-aid are based are as follows:

First, cleanliness in caring for all open wounds. Persons administering first-aid should be instructed not to touch or put anything on open wounds except a dry sterile compress or bandage compress. A bandage compress, which consists of several thicknesses of sterile gauze sewed to the middle of a strip of muslin, is used to cover all open wounds. Three sizes of compresses are used—large, medium, and small. The compress should usually be covered by a protective dressing. A triangular bandage has been found very suitable for this purpose, as it can be adapted...
to cover any part of the body. The triangular bandage is used either in the open form or folded cravat. In addition to being used to protect the other dressings, it may be used as an improvised tourniquet and to hold splints in place. A triangular bandage may be made from any kind of cloth such as a handkerchief, piece of shirt, or napkin. It has been found, however, that a piece of muslin forty inches square, folded diagonally and cut across the long side, making two triangular bandages, is most satisfactory.

The second principle in first-aid is the control of hemorrhage, or bleeding. Hemorrhage from a cut artery flows rapidly in spurts or fine jets, giving little time for blood to coagulate or clot. The blood is bright red. Blood from a vein, being under less pressure, flows steadily, but it may be rapid if from a large vein. It is dark in color. Bleeding from small arteries can often be controlled by direct pressure, but it is generally best to apply a tourniquet immediately, between the wound and the heart. Bleeding from a vein can usually be stopped by simply pressing a pad of sterile gauze over the wound and then elevating the part, having the patient lie down. Anything that makes the heart beat faster increases hemorrhage; hence in all cases of severe bleeding the patient should be kept in a recumbent or semi-recumbent position and as quiet as possible.

The third principle is the restoration of breathing after electric shock, apparent drowning, and poisoning by gases, as by carbon monoxide gas or illuminating gas. This treatment is by artificial respiration. Any method of artificial respiration may be used. For the ordinary person rendering first-aid, the Schaefer, or prone pressure, method is the simplest and is not as tiresome as some of the other methods. Recently a conference was held at which representatives of the United States Public Health Service, the United States Bureau of Mines, the American Red Cross, and other national organizations were present, for the purpose of deciding upon a uniform technique. This technique is very simple and anyone can learn it in a short time.

The fourth principle relates to dislocations and fractures of bones, which are treated by immobilization in a comfortable position, and a natural one if practicable, care being taken not to move the injured part unnecessarily. Well-padded splints are held in place by cravat bandages.

Fifth, burns are treated, after removal of the clothing, by use of sterile or sterile picric acid gauze and an outer dressing, as a triangular bandage, to hold the gauze in place and exclude the air. The exclusion of air is important. Precautions of cleanliness should be observed as stated for open wounds.

Sixth, shock, or vital depression, which accompanies all injuries to some degree, is treated by keeping the patient lying down at rest; keeping him warm by covering him with blankets or clothing, using hot water bottles, hot bricks, or similar means; aiding circulation by rubbing the extremities towards the heart, but not away from it; and by the use of common stimulants, as hot coffee or aromatic spirits of ammonia.

Seventh, transportation may be necessary to get an injured man to a place of safety, or to a more comfortable location; or to get him to a hospital and a physician. The methods vary with conditions, but the principle of transporting him so that he will suffer no further injury is important, whether he is transported on a stretcher or by one, two, three, or more persons.

In summarizing, the most important thing in the care of the injured person is PREVENTION—the reduction of accidents to a minimum by education and legislation. But as this minimum can never be zero, it is well to bear in mind the fundamental principles in first-aid care, which are as follows:

1. Asepsis or cleanliness in caring for open wounds.
2. Control of hemorrhage by pressure and position of injured part.
3. Treatment of shock by keeping patient at rest and warm and by giving simple stimulants.
4. Artificial respiration in asphyxia, electric shock, etc., combined with the use of pure oxygen in carbon monoxide cases.
5. Asepsis in treatment of burns; protection from air if this can be done with aseptic method; antisepsis and some relief of pain by use of picric acid gauze.
6. Immobilization of dislocations and fractures.
7. Transportation by methods that will not increase the extent of the injury.

In addition to the benefits gained by the early care of the injured, first-aid has been found actually to tend to lower accidents by making people more careful.
Dirt Eaters

by

Newton G. Wilson, M.D., Madison, N. C.

There are many children in the State of North Carolina who are addicted to dirt eating. Most of them prefer a red, yellow or white clay devoid of sand and grit. They are very secretive about this peculiar appetite and will go to great lengths to procure their dirt, and to keep the knowledge of their peculiarity from their parents and friends. In some instances adults are addicted to the same habit.

This habit is a symptom of disease and should be treated as such. Normal children do not crave dirt in their food and do not need any of the minerals that may be incorporated in it.

Many farmers have noticed that if their hogs are deprived of green foods for long periods of time in summer that they begin to eat dirt. If they are fed milk from cows that are pasture fed they are not nearly so liable to develop the dirt eating habit. Some of the veterinarians believe the habit is a symptom of parasitic infection of the intestinal tract. Others think it may be due to a deprivation of lime salts and vitamins in their food which would have been obtained from a green vegetable diet.

The cause of such a habit in the human is probably the same as in the hog, although some children are not little pigs. Children with such a habit should be examined by a competent doctor. The stools should be examined for intestinal parasites, the blood hemoglobin should be estimated and the number and type of red and white cells determined.

Early in the present century it was believed by some investigators that all cases of hookworm were contracted by dirt eaters, through the habit of eating dirt.

Sir William Osler discussing hookworm says:

"Occasional statements were made as to the occurrence of the disease in the United States, but it was not until the extensive investigations of Stiles in 1901, and later that it was shown that the hookworm was widely prevalent, and that it was responsible for an enormous amount of ill health and anemia and that it was directly connected with the old and long-ago described practice of dirt eating."

Sajous, in his "Analytic Encyclopaedia of Practical Medicine," also discussing hookworm says: "Joseph Pitt (1808) is probably the earliest author to refer to the disease in this country, though he was ignorant of the cause and believed it to be due to the habit of negroes eating dirt, and this was the belief of other physicians of his and later times."

It is, of course, not true that hookworm is contracted by dirt eating but it is true that most dirt eaters are also victims of hookworm. There may be found a reason for this in the under nourished condition of the hookworm child.

Whether or not all cases of dirt eaters are also infested with hookworm, they are all sick children and should be put under the care of a competent doctor.

These children are always under size, have a pale, pasty complexion and usually have a capricious appetite. In most cases they are dull mentally and tire very easily. They may complain of pains in the abdomen, nausea and constipation. There is usually breathlessness on exertion, and palpitation. These children are unable to withstand sustained mental or physical work. They cannot keep up with normal children in school, neither in their studies nor at play. In severe cases there may be headache, vomiting, vertigo, ringing in the ears, fever and severe shortness of breath. In these severe conditions the skin is of a dirty muddy hue or waxy white.

If children are given foods containing plenty of green leafy vegetables and ripe fruits, with cows milk in sufficient quantity they will probably never develop the dirt eating habit whether they have hookworm or not. It is a fact that children who have this habit have been deprived of one or more of the above specified foods.

If they are victims of hookworm they are not capable, (in some instances), of digesting and assimilating these foods. In such cases, although the correct diet has been supplied, the system suffers because of a lack nevertheless. The effect of the hook-
worm interferes with the normal digestion and assimilation of food.

Children with such a habit can be easily cured after a proper diet has been provided and the hookworm eradicated. They should not be censured but are rather an object of pity. Their parents are innocently responsible for their habit and should be made to see their responsibility and told how to meet it.

**THE OLD-FASHIONED HEADACHE**

News items appearing in the daily press emanating from New York recently have been asking the question: “Is the old-fashioned headache becoming obsolete?” It is said that druggists and cornerstore groceries who sell headache remedies have been complaining that the demand has greatly fallen off. No longer, they say, do women tie up their heads in wet towels and stay in bed in dark rooms, emitting proper groans from time to time.

Nobody has yet come forward, so far as we know, with any statistics on the subject. However, if we exercise due patience, the statistical brethren will be along in due time with a complete explanation on the subject. Naturally the statistics that are worrying the druggists and the grocers are the figures the cash register computes. As usual, a number of people are ready with cock-sure opinions anyhow. One self-constituted expert has solemnly proclaimed that the old-time headache has disappeared as the result of bobbed hair. Another expert, and one who is probably nearer correct, gives the credit to prohibition, wonderful to say, even in New York. The latter expert points out that in the old days the women who nearly died with a headache once or twice a week were generally the sisters who liked their beer strong and in large cups.

We have no opinion on the subject because we do not know whether the facts, if known, would prove that there is any less suffering from headaches today than twenty years ago; but if the facts point that way, we venture the suggestion (by no means an expert opinion, however) that modern methods of living have a great deal to do with the so-called banishment of headaches of the type described. Better combination of foods, better cooked foods, more temperate habits of eating, more outdoor exercise, owing to the automobile; and better economic conditions under which most people live now-a-days, more attention to health habits, and less dependence on pills and potions for constipation and like ills naturally should tend to eliminate headache due to indiscretions in diet and drink.

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We clipped an article from the New York Times of Sunday, December 18, 1927, which at the time seemed to us to embrace one of the most thoughtful discussions of the growth of the tobacco habit that we have seen anywhere. The article is in the form of a letter from Dr. Gustave Starke, of Tupper Lake, New York. The American Medical Directory does not list a doctor by that name at Tupper Lake, but it does list a Dr. Gustave Starke, at White Plains, New York, as having graduated in mediciine in 1889. This is evidently the same man.

Doctor Starke’s discussion is a very interesting commentary on the whole subject and at the same time it is briefly stated. His observations are so sane and conservative that a careful reading cannot fail to impress any intelligent reader, and we hope every young person who this Bulletin may reach will carefully read every word of it.

Following is the letter taken from the Times:

**GROWTH OF TOBACCO HABIT SEEN AS DANGER TO YOUTH**

**ALTHOUGH MODERATE USE CONTRIBUTES TO AN EVENNESS OF TEMPER, PHYSICIAN ADVISES AGAINST SMOKING**

“So much has recently appeared in the daily papers upon the effects of tobacco smoking without any progress in its elucidation that I am led to present the subject as I have found it after investigation covering a period of forty years in the active practice of medicine in New York. Being an addict to the practice gives me a good chance of comparing the symptoms
as discovered in others, and making comparisons, particularly when one is intensely interested in the subject, due to its general prevalence.

The effects of tobacco are best studied in a beginner in the art of smoking. At first it is disagreeable and distasteful, due to its pungent taste and odor. After awhile a quieting and calming effect is produced, to be subsequently followed by depression physically and mentally, dizziness, and, if continued, in a cold-clammy perspiration, rapid and weak heart action, to be followed by nausea and a general relaxation of the entire muscular system, with a decided tendency to drowsiness and sleepiness. But tolerance is quickly established, and after a few trials all these disagreeable symptoms disappear. This symptomatology is given with a view of making it easier for the layman to follow the subsequent effects upon the human system due to prolonged usage as hereafter set forth.

**Discarded as Medicine**

"In medicine tobacco has been used in times gone by to control convulsive disorders in children as well as adults, as tetanus or lockjaw, in which it was sometimes successfully used, and in other conditions evidenced by convulsive attacks. It has long been discarded as out of date and too dangerous for use, and has been replaced by more modern therapy. Everybody knows that one drop of nicotine will kill an animal, just as one drop of hydrocyanic acid will kill a human being.

"The effects of tobacco first and foremost are those of a muscular paralyzer, and secondly that of a nervous sedative. Smoking first produces a quiet and calm attitude with a disinclination to muscular efforts, and more or less of a serene mind, but when excessively indulged in, just the opposite effects are noted. In place of serenity and calm, nervousness and hyperactivity are noted, with loss of appetite and insomnia, in severe excesses noted also by an itchiness of the entire body after warming up in bed. The deductions to be made from the observation of these symptoms are that men or women with small muscular development, thin and lean and tall, do not bear tobacco well, as they have no muscular forces to spare, and it affects them more than muscular persons. Again, men or women well developed, with large muscles, can abuse themselves all they want to, and do not seem to suffer in consequence. Of course, I do not want to be understood that the appearance of all people that are smokers can be judged by these symptoms alone, as there are other factors that may lead a very important role in their makeup. An active assimilation plays too important a part to measure them all by the same yardstick. A sedentary occupation is not conducive to the use of tobacco, and it makes itself felt early and markedly, whereas the fellow that digs out in the streets all day can use it without harm.

**Effects on Nervous System**

"The effects of tobacco on the nervous system are also well marked. Tobacco used in moderation will contribute to one's evenness of temperament, but when indulged in excessively it makes just the opposite kind of a man of him. He will be cross, irritable and uncongenial. All drugs, tobacco included, vary in their actions according to the quantity used. Smoking to be beneficial should never be indulged in excepting after meals, when it helps digestion; never on an empty stomach. Moderate smoking increases the flow of the gastric juice, but excessive smoking produces so much that distress of all kinds appear, as flatulency, fullness of the abdomen and excessive gaseous eruptions, accompanied by heartburn after meals. Many cases of chronic indigestion can be entirely relieved by stopping tobacco.

"The effects of tobacco have been well studied at Yale College, where smokers and non-smokers were carefully weighed and measured throughout their college course. It was found that non-smokers were better in their studies and athletics than smokers, and that their endurance was also better. In growing boys it was also noted that the non-smokers were much better conditioned than the smokers, being heavier in weight and muscular development and better in their studies. Years ago the British Navy made similar observation on the men in service, and it was found that while the smokers could endure more hardship for a short time, it took them longer to recover their strength than non-smokers, and they were not in as good condition as the non-smokers.

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least exercise, driving the pulse up to over one hundred to the minute. Smokers not used to exercise will also perspire very easily, due to the relaxation of the sweat glands and the nervous system.

**NONE IS HARMLESS**

"The question is often asked which form of tobacco is most harmless. There is no such thing as harmless tobacco. You might as well ask which form of alcohol is most harmless. Tobacco remains tobacco, no matter how used, just the same as alcohol. It makes no difference whether snuffed, chewed, used in a pipe or a cigarette, the effects are all the same, the only difference being the quantity used. I do hope this will allay once and for all the question as to which is the most harmless way of using tobacco, because you cannot use a poison, no matter in what form, but get some of it in your system and suffer from its effects.

"What causes the craving for more tobacco when one has become an addict to it, many will ask. There are several answers to the question. The first is that the nervous system will develop habits very quickly which are harder to get rid of than to acquire. The second is that once you have developed a stomach that craving the effects of tobacco, you have the same craving as when you are hungry, and then begin to call for more. It is usually a sour stomach, but may not be enough so to make itself felt, yet the call is there just the same and will not be satisfied until another smoke allays the craving and deadens the call.

**ANTIDOTE TO EXCESSIVE USE**

"What are the antidotes to too much smoking? Producing as it does an excessive acid condition of the stomach, which begins at the mouth, as evidenced by the rapid deposit of tartar on the teeth, an alkali is theoretically called for, and does the work. Formerly the French advised milk as an antidote, and while it does help too, it will not help one to get rid of the habit. For the purpose of allaying the bad effects of too much tobacco I have found nothing better than milk of magnesia, which takes the place of bicarbonate of soda, with this advantage, that one teaspoonful of milk of magnesia does the work of five of bicarbonate of soda. Taken at night for a week or two, it will help wonderfully to allay the craving for tobacco by abolishing the acid condition of the stomach. But a nurse does not go with this prescription if anybody wants to try to break himself or herself of the habit, and fortitude will have to help some.

"Generally speaking, can one advise people to smoke? The hardened excessive smoker will admit that he wished he had never taken it up, but as he cannot break himself of it, he continues. Would he advise others to use tobacco? No, he would say it is an expensive, useless habit, though he has derived lots of pleasure from his cigar or pipe. If he had been properly advised in his youth before becoming addicted to it, he probably would not have gone quite so deeply into it. It is a habit that grows upon one, and once established is very hard to break away from. So my advice to all youths and maidens is: If you want to remain in first-class condition for the rest of your life, 'abstain.' There are other joys less seductive."

**THE PREVALENCE OF THE VENEREAL DISEASES**

How much syphilis and gonorrhea is there in the United States? Accurate data on the prevalence of the venereal diseases are lacking. Old figures are still being quoted, such as those obtained from the draft examination, special group reports, such as army, navy or hospital figures, and case reports made to state health departments and collected by the United States Public Health Service. It has been impracticable so far to obtain accurate information for a general population group. Such information is essential to an intelligent understanding of the many problems connected with the control of the venereal diseases. Therefore, an effort has recently been initiated to take soundings in various parts of the country—that is, to select cities typical of various conditions and make every possible effort to obtain a count of "known" cases of syphilis and gonococcal infection.

To answer, then, the question, "How much syphilis and gonorrhea is there in the United States?" incidence studies have been made by the American Social Hygiene Association in co-operation with the United States Public Health Service in a number
of places including Detroit, Atlanta, Cleveland, New Haven and other cities and counties. The desired information was secured through personal interviews of doctors and other persons "licensed to practice the healing art." Each one was asked how many cases he had under treatment or observation on a given date. The accuracy and completeness of the data was entirely dependent upon the physicians' good faith and willingness to co-operate in the undertaking. Interest was shown to a surprising degree, and there has been a general request for final tabulated results. In Detroit only eight out of 1,747 practitioners refused information.

Of the 1,739 physicians who did reply in the Detroit study 49 per cent reported one or more cases of venereal diseases. Of the 66 clinics and hospitals reporting 35 per cent had cases under treatment. In all 16,755 cases of syphilis and gonorrhea were said to be under observation or treatment on the day selected, a rate of 33.47 cases per 1,000 total population of the city. Males over 16 years of age showed a rate of 24.29 per 1,000 of the corresponding group of the population. Of the total cases reported, 8,665 were syphilis, a rate of 6.98 cases per 1,000 population, and 8,070 were gonorrhea, or 6.50 per 1,000. Of the total number enumerated, syphilis cases were slightly more numerous than gonorrhea cases, but in the male group 16 years and over, gonorrhea cases slightly predominated. Seventy per cent of the total number were being treated in private practice. About 96 per cent of the total number of cases were among persons 16 years of age or over, but among males about 97 per cent of the cases and among females 91 per cent were of this age group. Relatively more cases seem to occur at the younger ages among females. Of the total number of syphilis cases, 37 per cent were females, and of the total gonorrhea cases 22 per cent. But among persons under 16 years of age 52 per cent of syphilis cases and 72 per cent of the gonorrhea cases were among females. It appears that both of these diseases are relatively more frequent among young females than among young males.

The question arises as to what is the relation of the number of cases under treatment or observation on one day to the total number seen in a year. Accordingly many doctors were questioned as to the annual turnover of patients in their offices. Estimates varied between 5 and 20. Many patients "shop around" between different doctors and clinics during the course of a year so that if a year's cases were counted there would be considerable duplication of individuals. The clinic probably makes a greater effort than the private physician to keep its patients continually coming for treatment until cured. So taking everything into consideration, it might be assumed that the patients enumerated in the one-day census were about one-fifth of the total number seen in a year.

The information collected by the Detroit survey and other similar studies cannot possibly give an accurate measure of the actual prevalence of venereal diseases. Even if cases known to medical practitioners can be counted accurately, there is no way, from the information now available, in which the number of cases can be estimated which are not under treatment, either on account of ignorance or indifference of those affected, or because they are undergoing self-treatment. The count in the Detroit survey, however, revealed an unexpected number of cases actually under treatment. How many more there must be it is impossible to say. The army figures showed a ratio of one syphilis case to every four of gonorrhea. The Detroit study showed gonococcal infections, among males over 16 years of age at least, only slightly outnumbering syphilis cases. Does this mean that there is less gonorrhea among adult men than was found at the time of the army draft examination ten years ago, or is self-treatment or no treatment at all a common state of affairs, so that a large number of existing cases were not counted in the Detroit study? These and other questions of a similar nature are important to the public health administrator today.

Another important fact brought out by the survey was that 70 per cent of all cases enumerated were under treatment by private practitioners. About half the physicians visited had cases under treatment. Thus it would seem that the physician, rather than the public clinic, very largely holds in his hands the problem of the control, and, therefore, the prevention, of the venereal diseases. These studies will be continued, and it is hoped that by the end of 1928 enough data will be in hand to provide a base line from which to measure future trends in venereal disease incidence.—American Journal of Public Health.
SMALL TOWN OR CITY PRACTICE, WHICH?

Following, on this page in this issue, we are republishing an article by Dr. C. Edmund Kells, of New Orleans, under the title of "The Handwriting on the Wall." This article of Doctor Kells' was first published in Oral Hygiene, a dental journal of national circulation.

Doctor Kells was invited to be the honor guest at the Mississippi Valley Dental Association meeting last winter. This paper is a stenographic copy of his address to the dentists at that time. It is such a pertinent discussion of the problem presented to every physician and every dentist in the smaller sized cities and the small towns of North Carolina that we commend it to the careful perusal of every physician and dentist in this State. Interest should be added in reading this paper on account of the deplorable fact that Doctor Kells committed suicide in his office on May 7. He was in all probability the most famous dentist in the world. He was a brilliant writer on dental subjects, and loved his profession and the practice of dentistry with a deep and abiding affection, which probably had a great deal to do with his eminent success as a practicing dentist for so many years.

Doctor Kells was the first dentist in the United States to experiment with the x-ray in the diagnosis of dental conditions. An interesting point in this connection is that he held his first public clinic on the subject at Asheville, North Carolina, in 1896. Throughout all these intervening years he has been an expert in x-ray methods. Some three or four years ago he lost his left hand and arm, which had to be amputated on account of the peculiar affection affecting some x-ray workers. Several months ago the same affection occurred in his right hand and arm, and he was also growing blind from the same condition. Faced with the alternative of going on at his advanced age without arms or sight, and knowing that he was doomed to lose his life eventually from the same cause, he committed suicide.

Doctor Kells' work as a writer, as a dentist, and as a profound exponent of common sense in professional life will stand for a long time as a wonderful monument to his memory.

THE HANDWRITING ON THE WALL


"This town will soon be a 'dead one' for all except the garage, the oil station, the drug store, and the hotel to accommodate tourists on the way to the big town.

"I'm going to New York to take a course in oral surgery, and then to some city, for I see 'the handwriting on the wall.'"

That was my visitor's story, as he told it to me.

Now, friends, I imagine that a large majority of the men who belong to the Mississippi Dental Association are small town dentists. Am I right?

If yes, do any of you see "the handwriting on the wall?"

Yes? Well, you have heard the story of the small-town dentist as he told it to me. Now I will give you the story of the big city dentist as I have learned it.

First of all, let me tell you, friends, that if you find any "handwriting on the wall," you yourselves, have written it.

Now here's my story:

Why do small-town people go to dentists in some distant city for their dental work?

There are two answers to this question: the one—well, they don't all do it; and the second is that those who do, usually have good reasons for doing so.

City men must naturally charge higher fees for their work than do small-town dentists. They must do so because city expenses are infinitely higher than country expenses.

Do you imagine for a moment that it is the high fee that attracts the country people? Perish the thought! If country folks take their time to go to the city, pay hotel bills there, and on top of all this,
pay higher fees for their dentistry, either there's a mighty good reason for it, or they are plumb crazy—there's no argument needed about that.

Well then, if it's not the inconvenience of going to town or the high fees that attract them, what can it be?

Well, it's not hard to tell. It's the service and the class of work they get in the city, and which they can't get their country dentists to render.

Please note that I say—can't get their country dentists to render. I don't say that their country dentists can't do as well. It's not a case of can't, it's just a case of won't.

I can assure you, friends, that I see a lot of people from all around; patients of country dentists; patients of small-town dentists, and I am continually amazed at, not the quality of the work I see done, but at the quantity of teeth that I see needing attention, and that have not received it.

The very great majority of your patients, and my patients, want their work done—all of it, every tooth that requires attention they want attended to.

Does every small-town dentist do this? I'm sorry to say lots of them do not.

A patient calls upon me for a consultation about some trouble more or less obscure. He comes for a skiagraphic diagnosis.

I find the mouth in a bad condition, generally, and say, "You should have your teeth thoroughly cleaned and polished." And time and time again the reply has come, "Doctor Blank doesn't seem to want to do that."

Again I say, "There are quite a number of teeth that need filling." Again the reply comes back, "That surprises me; I've just had my teeth put in order."

Often a patient will ask me to diagram her mouth. Can you imagine it? A patient taking a diagram of her mouth to her own dentist, and telling him that another dentist found all these cavities and wants them filled? Isn't that something awful?

Awful? Well I should hope! But that's not the worst by any means, because this is what I hear: "Well, there's no use of my going back to Doctor Blank; I'll have to come down here to get this work done. Can you recommend me to someone who will do this right for me?"

And then, much against my will, because I really think that this work should be done at home, I say, "Well, there are my old associates, Doctors McAfee and Var­nado. Either one of these would give you the very highest class of service, but it would be better for you to have this done in your own home town, and by your own dentist."

However, notwithstanding my advice, they make an appointment with Doctor McAfee or Doctor Varnado for sittings probably two or three weeks off. The patient has to return to the city and stay at an expensive hotel for the time necessary, and all because the patient could not get the attention and the service to which she was justly entitled in her own little home town.

Now I'll ask you a question, the answer to which shows "the handwriting on the wall."

First let me say that, of course, the following does not apply to all country offices by any means, but I fear it does apply to many.

Let me take any one of you in an airplane, blindfold you and then make a landing. Blindfolded as you are, I'll take you in to a dental office and then remove the bandage from your eyes. Honest now, "cross you heart and hope to die," if you walk all through the office suite, giving it a "once over," what are your chances of guessing correctly whether you are in a city office or a small town office? It's a hundred to one shot that you'll guess correctly. Will you tell me how it is that you'll tell at a glance whether you are in a city or a country office? If there is a difference, why should there be one?

I'll stake my reputation upon it that if you would transport a high-class city dentist, his high-class office, his high-class assistants—transport the whole outfit to a small town—that these people who used to go to the city to see him, would be perfectly well satisfied to continue to go to him now that he had become a small town dentist.

And when they found that in the small town he could well afford to and did lower his fees, they would have no kick coming, because they did not go all the way to the city to him just because of his high fees.

And again, I'll risk my reputation upon the fact that his time will soon be all taken by his pleased patients who live within striking distance and are only too glad
to go to him; never a thought do they give to going to the big city and to a city dentist, because they can get what they need and what they want right at home.

And here's "something else again" about this small town dentist. When I was a little shaver, spent several summers with an aunt in picturesque Keene, N. H. Keene was ninety miles from Boston on a direct line.

Now there was a dentist in Keene who was favorably known for miles and miles around, and some people even from Boston would go those ninety miles and back, to the Keene dentist in preference to going to any one in their own big city.

The attractions were his fine work and his moderate fees. I have known folks, who lived in our own good Crescent City and who had summer homes in the country, to always have their dental work done during the summer, because near their summer home was a good old-fashioned dentist who did fine work, and his terms were moderate. They only came to me or some other dentist here for emergency work. They like their country dentist better than any of us "city cousins."

Therefore, friends, if any of you see the "handwriting on the wall," I would bid you fit up your offices so that they will compare in appearance and in neatness to the city office, and roll up your sleeves (figuratively only, because I hope you wear a coat) and rub out that "writing on the wall" by means of the interest you take in your people, the character of the work you give them, and the thoroughness with which you do it.

If you only know it, the city dentist would not be "in the running" with you, if you'd do your duty by your patients.

If there is any "handwriting on the wall," it is written there by the owners of the wall and by no one else—take that from me!

And now, dear friends, I hope that you will accept my message in the spirit in which it is sent. I want you to know that I, a Louisianian, have just as deep an interest in the welfare of every member of your Mississippi Association as any one of you has.

The small-town dentist should be satisfied with his lot. He should be content. He has many natural advantages over the city man, I can assure you.

This is a wonderful world to live in and dentistry is a wonderful profession. Who can do more for the health and comfort of his fellow-men than the dentist? And more than that, he can often restore disfiguring teeth to their pristine beauty, and thereby earn the gratefulness of his patients.

To be able to relieve pain—what a calling! To prevent pain—what a blessed purpose! And all this is not copyrighted by the city dentist.

Let the small-town dentist surround himself with an attractive and clean office, let him practice thorough and conservative dentistry, let him take a deep interest in the welfare of his patients—and that counts as much as anything—let him do all this, and then he need have no fear of good roads, fast automobiles, and the city dentist. I can assure you of that. His walls will be ever free from any ominous handwriting.

There is a fast train from every town and hamlet in Mississippi to the Crescent City every day. There are fast mails every day. If ever I can help any of you boys in any way, I want you all to know that I shall be only too glad to do so. Good folks, I thank you.—Oral Hygiene.
VALUE OF YEAST AS MEDICINE AND FOOD IS INVESTIGATED BY PUBLIC HEALTH SERVICE

Nutritive and Health Promoting Qualities Recognized, But Other Products Fill Purpose Better

Yeast, a microscopic plant, although its use dates back beyond recorded history, has been recommended only in recent years as a food and medicine. Its status as a medicine is not yet exactly known to medical science. A statement issued by the Public Health Service, May 22, discusses food and medicine value of yeast.

There are some 500 different species of yeasts that have been described, it is stated, a number of which are used in bread making and for promoting alcoholic fermentation. Yeast grows like other plant life, and begins to multiply when certain conditions are provided.

"Yeast has commercially been recommended for use as a medicine in more conditions and diseases than it is possible to enumerate," the statement said. "In many of these diseases its value is subject to controversy."

MEDICAL VALUE OF YEAST OVERATED

The value of yeast as medicine has been overrated, in the opinion of the Public Health Service. Eventually the status of yeast as food and medicine will be more exactly known, it is stated.

"The entire subject of diet and nutrition is at this time in a state of very active evolution. When the yeast controversy is finally settled, it is believed that any medicinal value found to exist in yeast will operate more as a corrective of faulty diet than as a strictly medicinal agent."

The full text of the statement follows:

No class of microscopic plants has been more intimately associated with the progress and development of the human race than the yeast. It is not definitely known when or where man first made use of yeast, but the earliest records of the activities of ancient civilization find it in common use as a leaven for bread and in the production of fermented drinks.

Microscopic examination of bread found with Egyptian mummies has revealed the presence of yeast, showing that these people were familiar with yeast fermentations, although they probably did not have any explanation for the changes which were caused by these small organisms.

NATURE OF YEAST STUDIED BY PASTEUR

Although the use of yeast dates beyond recorded history, it is the celebrated work of Pasteur, in 1859, that marks the beginning of definite knowledge of the nature of yeasts and of the phenomenon of fermentation. Since that time these small plants have never ceased to assume an ever increasing importance, and great industries have been established which rest entirely on the chemical changes brought about by yeast, some of which would have been developed only with much difficulty had it been necessary to use strictly chemical methods.

By far the greatest development of the use of yeast has been its employment as an agent of fermentation in industry and in the home. Special species of yeast organisms have been selected, isolated, and grown in pure culture, or in other words, in pure strain, for this purpose, according to the type of fermentation desired. These specially selected yeasts form the common commercial varieties.

In recent years yeast has assumed added importance to its established usefulness as an agent for the production of chemical changes through fermentation. Chemical and biological studies that have been made on the yeast plant as a substance show that it contains a great variety of complex products.

The result of these studies has been the recommendation of yeast as a food and medicine. It is this latter and less well known use that is of particular interest at the present time, considerable controversy having arisen as to its value.

It is intended in this talk to give a description of the plant and to discuss
briefly its action in industry, its established value as a food and as a medicine, and its other recommended uses.

**Microscopic Plant of Family of Fungi**

Yeast belong to that large branch of the world's plant kingdom included in the designation "microscopic plants." For convenience of description, botanists have divided that plant kingdom into groups and subgroups according to well recognized characteristics.

It will suffice to locate yeasts to say that they are members of the fungi, a group that lies between the smallest known plants—the bacteria—and that universally recognized group of larger species, of which our green and flowering plants are well known members.

Yeast resemble bacteria in that both are single cell plants and are microscopic in size. They differ, however, as to size, growth, and method of propagation.

They are widely distributed in nature, being found practically everywhere. This almost universal presence is readily recognized because of the well known phenomenon of fermentation, peculiar but not limited to yeasts.

There are a great many different species of yeasts, some 500 having been described. While interesting to students of botany, practical use has been found for only a few of these species. There is one group, or family, that includes all industrial yeasts—the Saccharomycoses.

Of this group several varieties have been developed, in each case dependent on the type of fermentation desired, either rapid or slow. All commercial yeasts are of one or the other variety of this group.

Generally, those used in bread making and for alcoholic distillation are rapid fermenters, while those used for brewing are slow. Any great difference in chemical composition, then, of commercial yeasts will depend on the medium in which they are grown and on handling prior to reaching the consumer.

**Absence of Oxygen Cause of Fermentation**

Yeast, like other plant life, begins to grow and multiply when certain conditions are provided. These conditions for yeast are moisture, proper temperature and the presence of proper food material—protein, carbohydrate and oxygen.

Given all of these, yeast multiples very rapidly with little fermentation. With all of the above conditions, save one, oxygen, yeast multiplies at a less rapid rate, but cause a chemical reaction, which is called fermentation.

It is by the first method that yeast is grown for market. Yeast produced by the second method is primarily a by-product, but in recent years it also has been sold commercially.

The chemical change known as fermentation consists in the changing of sugars into alcohol and carbon dioxide. Both products of this reaction are technically useful—the first in the manufacture of alcohol, the second in the making of bread; for it is the carbon dioxide, a gas, that causes the bread dough to rise.

Chemical analysis of yeast has shown the presence of protein, carbohydrate, and fat, together with many other complex chemicals. Protein is present in the greatest proportion, about fifty per cent.

In addition to strictly chemical analysis it has been shown by so-called biological analysis that yeast also contains numerous substances called enzymes and is quite rich in vitamin B. Inasmuch as yeast cannot be separated from the medium on which it is grown, its chemical composition will vary as will its content of enzymes and vitamins according to conditions of growth and subsequent treatment.

To state that the use of the yeast plant as food and medicine is a recent development is not strictly correct; the history of medicine shows that in at least two former periods in history such use was popular for a short time, but for some reason its use was largely discontinued.

**Yeast Found Rich in Vitamin Content**

The present period of popularity was probably to a large extent due to the announcement of the discovery of vitamins, one of which was early shown to be present in yeast. Indeed, the early workers in nutrition used yeast almost exclusively as a standard with which to compare the quantity of vitamin B in other things, and yeast and vitamin B were practically synonymous terms.

Although it is known that yeast contains many things other than this vitamin, and that this vitamin is a very complex substance, it continues to serve a very important and useful place in nutritional research.

With the advancement of knowledge of
nutrition, the vitamins being shown to be essentials of diet, it was but natural to suppose that yeast, rich in one of the vitamins, would be a valuable food, especially as it also contained a large proportion of protein.

During the World War a potential food shortage for some of the nations arose. Yeast was studied as a possible protein substitute. Since these studies were made, others have been carried on in this country and in other countries, and it is the consensus of opinion that yeast can at least satisfactorily furnish a part of the body demand for protein.

However, this knowledge has not been put into practice, since, under ordinary circumstances, our protein foods can be furnished in a more palatable form and more cheaply from other sources. It may be that, eventually, these difficulties will be overcome.

Some yeast producers are now attempting to improve the palatability of their product. With this difficulty overcome, the volume of production will probably take care of the price.

Yeast has been recommended and is largely used as a substitute for beef extract. In this rather limited field it has a value and can here be furnished more cheaply. It has at least an equal food value with the extractives from beef, and the difference in palatability is not great.

Work done by officers of Public Health Service has shown that yeast is of value in the prevention and treatment of pellagra. Used as a preventive of this disease, it would be considered a food; while if used in the treatment it would be considered a medicine.

In the evaluation of yeast in this or any other disease, it is important to make a distinction between prevention and cure. Many common articles of diet furnish sufficient amount of the necessary vitamins to prevent beri beri or pellagra, and it is entirely unnecessary to resort to special measures unless called upon to treat a developed case; it is possible to cure these diseases in their beginning with nothing more than an ordinary diet; but because of some concentration of the necessary vitamins in yeast it actually possesses value in treating developed cases.

Under ordinary circumstances, yeast is not recommended as a preventive of these deficiency diseases, as in the case of the use of yeast as a protein substitute; it is less palatable and more costly than many other foods which contain the necessary food factor or factors supplied by yeast.

MALNUTRITION CAUSED BY FOOD DEFICIENCIES

When man is left to select his own food he is, as a rule, well nourished; the exceptions to this rule are his inability to select, for economic or other reasons or for causes having no connection with diet. It is a well known fact that most of the so-called deficiency diseases in man, caused by lack of vitamin B, can be traced to economic control of his dietary.

Yeast has commercially been recommended for use as a medicine in more conditions and diseases than it is possible to enumerate. In many of these diseases its value is subject to controversy.

Particular stress has been placed on its value in skin diseases and constipation. It does produce a laxative effect; but whether it is more valuable in this connection than some of our well known green, leafy vegetables and fruits taken raw has not been shown.

Certain diseases of the skin are apparently benefited by improvement in the elimination of waste products of the body. It is quite probable that any improvement following administration of yeast in such conditions is due to this laxative effect. The same is likely true of the alleged beneficial effect of yeast on appetite.

Without doubt yeast has some medicinal value, but this value is certainly not so great nor universal as to warrant its indiscriminate administration in ignorance of the condition one desires to correct. It is not that yeast will in itself actually do harm, but self treatment is generally to be condemned, because by so doing, one may neglect a serious condition until it is too late to apply the proper corrective.

Insofar as the public is concerned, it is always far better to depend on scientific medical advice rather than on commercial advertising in the use of any remedy. So far as is known, no discovery of value to man has as yet been withheld by those seriously engaged in the science of preventive or curative medicine.

Eventually the status of yeast as a food and as a medicine will be more exactly known. The entire subject of diet and
nutrition is at this time in a state of very active evolution.

When the yeast controversy is finally settled, it is believed that any medicinal value found to exist in yeast will operate more as a corrective of faulty diet than as a strictly medical agent.—United States Daily.

FOOD POISONING

We could probably summarize the subject of food poisoning by dividing it into five categories:

1st. Those cases due to infection with bacteria and molds, or to their decomposition products in meats, fish and other foods which would include botulinus, paratyphoid and Gaertner’s bacillus and B. proteus (vulgaris or some other species).

2nd. Instances of poisoning with true alkaloids e.g. mushroom (muscarin, phalhin), potatoes (solanin), and meal contaminated with ergot (ergotoxin).

3rd. The cases caused by the undefined native toxins of some fish and bivalves. These are called ichthyotoxin and mytilo-

RUMORS AND HEARSAY

Since the Stone Age, every step in the advancement of the race has been beset with pitfalls. Every modern method of disease control has been hampered by opposition, superstition and the imperfections that characterize all things new but by patient and painstaking labor most of the hazards to human health in the form of communicable diseases have been conquered. Often through ignorance but often through jealousy and selfishness, the prevention of disease by inoculation and vaccination has been attacked. Shall we base our conclusions as to the value of present day methods on rumors, on early experiences with newly discovered procedures, on the statements of prejudiced persons or on facts and statistics gathered and given out only after prolonged and accurate research?—Florida Health Bulletin.

REGIONAL CONFERENCE ON SOCIAL HYGIENE

LOUISVILLE, KENTUCKY, OCTOBER 11-13, 1928

The Fall Regional Social Hygiene Conference will be held this year in Louisville, Kentucky, under the sponsorship of the Social Hygiene Association of Kentucky and thirty-five co-operating national, state and local organizations, including the State Boards of Health and Education. The American Social Hygiene Association, as the representative national voluntary agency in this field, will participate extensively in developing the plans and program. The dates for the Conference are October 11-13 and headquarters will be the Brown Hotel. Authorities in the field of sex education, protective measure, venereal disease control, law enforcement, and other aspects of social hygiene will be on the program. It is expected that the speakers will include Surgeon General Hugh Young, Dr. Edward L. Keyes, Dr. Valeria H. Parker, Dr. William F. Snow, and other leaders in the nation’s social hygiene activities.

Dr. A. T. McCormack, secretary of the State Board of Health of Kentucky, has invited the health workers of the state to take part in this Conference, and Miss Elsie A. Zinsmeister, president of the Social Hygiene Association of Kentucky, has been assured of the co-operation of both voluntary and official groups throughout the southwest.

Specialists will be given opportunities to discuss their particular problems at round table gatherings while the general meetings will furnish addresses and papers of wide interest and value. Many members of social hygiene societies and workers in related fields throughout the United States already are planning their October schedules with this Conference in mind—American Social Hygiene Association.
PHYSIOLOGIC ACTION OF TEA

McDowall concludes that the moderate consumption of properly made tea does not have any serious disadvantages and that, taken with meals, it acts as a useful antagonist to the somewhat soporific effect of the meal itself. It is, however, to be considered essentially a luxury, without any real value, except that it promotes a sense of well being. Its bad effect, if taken in excess, or if too long infused, may, in some persons, be considerable, although fortunately these effects are never permanent and disappear if the supply is reduced. An important practical point is that when tea has to be made in large vessels which require replenishing from time to time, some method must be adopted for removing the used tea leaves readily by having, for example, the tea suspended in small muslin bags or in a special wire gauze chamber. When urns are in use, the tea should be made in teapots by rapid infusion with boiling water and poured into the larger vessels, which may then be kept heated as required.—From Mind and Body.

THE VALUE OF PRENATAL CARE

There were 3,217 mothers delivered in the obstetrical department of the Louisville City Hospital from April 1, 1923, to July 1, 1927. Of these 1,156 had received no prenatal care at the hospital clinic. The remaining 2,061 were registered in the clinic and had made at least one visit. Among the 2,061 patients receiving prenatal care there were six maternal deaths, a mortality rate of 2.9 mothers per 1,000 deliveries. The maternal deaths among 1,156 non-clinic patients numbered 26, giving a death rate of 22.4 per 1,000 deliveries. In 1927 there were no maternal deaths among the 658 prenatal clinic patients.

Fetal and neonatal deaths calculated on the basis of the total number of deliveries show a mortality of 7.5 per cent among the clinic patients and 22.6 per cent among the non-clinic. There were 35 cases of eclampsia among the non-clinic mothers; ten of the patients died giving a mortality of 8.5 deaths per 1,000 deliveries. Eclampsia developed in 12 of the clinic patients, due to inadequate prenatal care, but none of them died.—Alice N. Pickett, Kentucky State M. J.

ECONOMIC LOSS DUE TO CANCER

Cancer is one of the major sources of loss to a community through disease. Computing the money loss from cancer for each age group, the bulletin gives the appalling total of $680,000,000, according to the figures of 1927. And this is not all. The victims of cancer pass through a period of illness requiring medical attention and nursing care. At a very conservative estimate the cost of this, not counting the loss in wages, is at the very least $1,000 per case, which involves an additional loss of $110,000,000. This, added to the $680,000,000, means practically $800,000,000.—Good Health.

TOXIN-ANTITOXIN PREVENTS DIPHTHERIA

All children between the ages of six months and six years should have at least three doses at intervals of one week.
THE FELLOWS
WHO MADE
AN EARLY
DISCOVERY OF
TUBERCULOSIS

IF I HADN'T WAITED SO LONG I COULD HAVE BEEN ON THE ROAD WITH THESE FELLOWS.

TO RECOVERY

FAR ADVANCED CASE OF TUBERCULOSIS

SANATORIUM, N.C.

WOODLIEF

3-28
SCHOOL DAYS FAR FROM DREARY

A group of First-Graders being initiated into some of the joys of their New World. All over North Carolina this month many thousands of little beginners are making their first great adjustment in the experiment of life since birth. Let us hope that all of them may meet better teachers, have better health, score a higher record in average attendance, and achieve more satisfactory scholastic results than any previous group in the history of the State.
MEMBERS OF THE NORTH CAROLINA STATE BOARD OF HEALTH

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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

- Adenoids and Tonsils
- Cancer
- Catarrh
- Care of the Baby
- Constipation
- Colds
- Clean-up Placards
- Chicken pox
- Diphtheria
- Don't Spit Placards
- Eyes
- Flies
- Fly Placards
- German Measles
- Hookworm Disease
- Infantile Paralysis
- Indigestion
- Influenza
- Malaria
- Measles
- Pelagra
- Public Health Laws
- Prenatal Care
- Sanitary Privies
- Scarlet Fever
- Smallpox
- Teeth
- Tuberculosis
- Tuberculosis Placards
- Typhoid Fever
- Typhoid Placards
- Venereal Diseases
- Water Supplies
- Whooping Cough

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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MATTERS CONCERNING THE HEALTH OF SCHOOL CHILDREN

This article is supposed to be an intimate discussion involving the many questions which parents and teachers have to consider with reference to preparation for another school year. There are at present so many agencies active in the field of school health and pre-school health, and so much literature is being broadcast all the time concerning child health, that we almost feel like apologizing for mentioning the subject again.

It almost seems trite to us to talk about the school children's health now-a-days. We realize, however, that every year a rather large army of small children enter the schools for the first time. We also realize that unless the facts and information concerning good health is kept constantly before children, as well as adults, all the time memory lapses and everybody is prone to forget the necessity for these things. We believe in a positive health service, in the establishment of positive reasons for good health and for the attractiveness of healthy living. But to attain this ideal constant effort is required.

There are so many questions that are important for the parent and teacher to consider for the benefit of the children's best interest that it is a puzzle to know which to emphasize. So we would like for the reader to go on and ask his or her own question and seek the most intelligent and practical answer to such question from whatever source is most available. We herewith propose to exercise such a privilege in the capacity of a parent as well as a health officer, and, therefore, we herein set forth some of the important things that occur to us.

"MY ATTENTION HAS NOT BEEN CALLED"

A few days ago we received a very welcome visit from an old friend, a native and patriotic North Carolinian now living in Cincinnati, Ohio. This friend is a highly educated man. He is definitely and closely allied with the business and professional life in his circles in Cincinnati. He had with him on the occasion of this visit his wife and four bright young children, the children ranging in ages from ten years down to two and one-half. One of the children became ill while in Raleigh, and while the writer was discussing and advising with this father about the illness of his child we asked him this question: "Have you ever given your children toxin-antitoxin to prevent diphtheria?" He replied no, that his attention had not been called to the necessity for anything of the kind and he did not know anything about it. We were then privileged to explain to this educated man from Cincinnati, Ohio, the simple facts about toxin-antitoxin prevention for diphtheria. He stated that he had seen nothing in any newspaper coming his way about such treatment. Not a line in either of the daily papers which come to his house morning and evening had ever attracted his attention to the necessity for this protection. He said that his family physician had never mentioned to him or his family the advisability of administering such treatment, or even the existence of such a method. He said that in his associations in civic clubs, to one of which he belonged, such a subject had never been mentioned in his presence. He said that if the question had been mentioned at the meetings of the lawyers or ministerial association it had escaped him.

It occurs to us, therefore, that if a man of this type, that we are talking about, has simply failed to become informed about this necessary protection for very young children now, that the fault was not his, but must be due to the lack of diligence on the part of other agencies in his city. It also occurs to us that if a man of this
type, who loves his children better than he
does anything in the world and who lives
in Cincinnati, a great modern city, does
not know anything about such procedure,
that there are necessarily many thousands
of people, including the fathers of young
children in North Carolina, who also do
not know anything about diphtheria pre-
vention, and whose attention has not been
called by those of us responsible to the
existence of such protective measures. This
not only applies to toxin-antitoxin but to
and to protect the children against small-
pox through vaccination, and also to the
protection against typhoid fever and many
other measures necessary to safeguard the
health of children in our complex present-
day civilization. We hope that the teachers
of every grade school in North Carolina
this year will somehow secure the knowl-
dedge that there is such a thing as toxin-
antitoxin, which is given to children, gen-
erally under six years of age, to protect
them from an attack of diphtheria.

In past years health officers have always
looked with dread upon the opening of
schools in the fall, because it has nearly
always meant an increase in the spread
of infectious diseases. They have especial-
ly dreaded such diseases as diphtheria
and scarlet fever, as well as the common
and more prevalent diseases of measles and
whooping cough. We, therefore, here and
now urge every parent in this State to
see that every child, especially those just
entering school for the first time, receives
the three treatments of toxin-antitoxin
necessary to protect from diphtheria. It
requires from four to six months to estab-
lish immunity after the three treatments
are completed; therefore, it is much wiser
to have this treatment given in the spring
of the year for all very young children,
especially those in the five-year class, which
will start to school for the first time in the
fall.

In the hundreds and thousands of cases
in this State, where this has not already
been done, we want to urge that now is
the best time to have these three treat-
ments given. Your family physician or
your county health officer or city health
officer is prepared to administer this treat-
ment any time. We hope, also, that the
school boards and trustees of every public
school in the State will require successful
vaccination against smallpox before allow-
ing any children to enter school, regardless
of the age of the children. We hope that
any person who reads these lines will make
it his or her business to call attention to
every single acquaintance among teachers
or parents to the facts stated herein, so
that no parent of children of susceptible
age to dangerous diseases like diphtheria
can say in North Carolina that his atten-
tion has not been called to the existence
of such measures.

THE CARE OF THE EYES

The State Board of Health has a special
pamphlet for distribution on the care of
the eyes. This will be sent to any teacher,
upon request, who is interested in making
a careful effort to safeguard the eyesight
of school children.

The question of conserving the sight of
children is more important today than at
any previous time in the history of the
world. The reason is that the eyes are
put to greater strain. Living is faster in
every respect. While in thousands of
homes and schoolrooms lighting arrange-
ments are much easier and better than
ever before, there are other thousands in
which such is not the case, and there are
so many ways and methods from which
the eyes undergo exhaustive strain now-a-
days that special care is necessary to pro-
tect children from damaged eyesight. In
many homes electric light sockets are
placed at random all over the house. Chil-
dren do not know, and, therefore, do not
stop to reason, about the best position to
assume to read. Many of them sit down
with the light directly in front of them,
or with the light too dim or too far away,
and they strain their eyes even more than
the children did long ago, who had to
read by dirty kerosene lamps or by pine
knot fires.

There are simple tests through which
teachers can ascertain the presence of any
child in school who has defective eyesight.
Such children should always be located in
the beginning of the session and every
parent should be urged to see that they
receive the proper adjustment, when pos-
sible, for any deficiencies in sight. This
protection is especially necessary in any
schoolroom where the lighting facilities
are poorly arranged. Any child with any
deficiencies in vision should be placed in
the front of the schoolroom and in a pos-
tion where the light, reflected on the black-
board, shows to the best advantage. Such
children, when placed in the rear of the
room, cannot properly see the demonstra-
tions that are written on the blackboard, and, therefore, they miss practically all of the instruction so offered.

**Deafness**

While the percentage of deafened children is not so large as those who have deficient vision, it is sufficiently large enough to admit careful attention on the part of the teacher. Some of the national associations devoted to a study of the subject claim that there are many millions of children in the United States whose hearing is below normal. These children are sensitive to their defect when they are aware of the defect themselves, but in a large majority of instances they do not themselves know of the existence of the abnormal or subnormal condition of their hearing.

Here again the teacher may adopt a very simple test. In fact, there are a half dozen tests the intelligent teacher can utilize, without any outlay whatever in expense, which will satisfactorily locate any such children in a schoolroom. After getting the name of the children enrolled for the first day of school, this test should be the very first duty of every teacher in every school in the State of North Carolina. It is nothing short of criminal to place a child with subnormal hearing, even though the defect is very slight, on the rear seats of the schoolroom, because a child placed in such position with defective hearing, even though slight, misses practically all that goes on, and, therefore, cannot have any interest in the activities of the ordinary school exercises. Such children are too frequently branded like Thomas A. Edison was in his youth, "the school fool." Such careless acts on the part of any teacher in dealing with such children is inexcusable. We hope that every teacher in the State will somehow see these lines or hear this message and, therefore, accept the responsibility of having their attention called to the necessity for this simple test.

**The Care of the Teeth**

The State Board of Health has pamphlets for distribution to parents and teachers carrying much information on this subject. For the past ten years the dentists employed by the State Board of Health and by local boards of health and school authorities in various places of the State in the conduct of school dental clinics have practically brought this subject to the attention of every child and every parent as well as teacher in the State. However, it is a subject that is just as important to keep before the people as any subject that could possibly engage the attention of the teachers and parents. The only way to definitely improve the teeth, and, therefore, the health of all the people in a whole generation, is to keep the matter everlastingly emphasized and to have something done every time in every individual case where there is the least necessity for dental care, and that applies to everybody.

**Diseased Throats**

In relation to this subject we can again state that the State Board of Health has a special pamphlet for distribution on diseased tonsils and adenoids, which we cheerfully send to any citizen, teacher, or parent interested. In this field, again, the State Board of Health has pioneered for ten years in centralizing the attention of parents and teachers on the necessity for careful attention to children suffering from such handicaps. These are matters primarily for the family physician and the
that dangerous period by untrained midwives. It is safe to assume that most children entering school have not received the medical attention which should have been given. We do not know exactly how many children, in our schools are diseased, but from examinations which have been made, we can estimate about the size of our school medical problem.

Dr. Thos. Wood, of New York, estimates the percentage of defects found among school children as follows:

- Heart Disease: 1½ to 2%
- Tuberculosis: 5 to 10%
- Orthopaedic defects: 5%
- Defective Vision: 25%
- Defective Hearing: 5%
- Enlarged and Diseased Tonsils: 30%
- Malnutrition: 25%
- Defective Teeth: 50%

Dr. S. Josephine Baker, in her book entitled Child Hygiene, gives the following percentage of diseased conditions found among children of pre-school age:

- Hypertrophied tonsils: 26.3%
- Defective Nasal breathing: 23.1%
- Malnutrition: 19.2%
- Pulmonary disease: 1.12%
- Organic heart disease: 0.66%
- Orthopaedic defects: 1.12%
- Nervous diseases: 0.66%
- Defective teeth: 72.6%

The National Society for the Prevention of Blindness estimates that 12 per cent of all school children are suffering from some form of eye disease which should be under the care of a physician. If we made a low estimate of the amount of diseases among these children, we would find it about as follows:

- Total children: 818,739
- Heart disease (1 per cent): 8,187
- Tuberculosis (infected and underweight 3 per cent): 24,561
- Malnutrition (other causes 14 per cent): 114,619
- Visual disturbances (10 per cent): 81,873
- Diseased and enlarged tonsils (25 per cent): 204,685
- Defective hearing (3 per cent): 24,561
- Orthopaedic defects (3 per cent): 40,935
- Mental disease (1 per cent): 8,187
- Dental defects (40 per cent): 327,495

This does not include much other medical work which should be done in the schools such as smallpox vaccination, inoculation to prevent typhoid and diphtheria, many cases of skin disease, hernias, circumcisions, an occasional appendixitis and many diseases such as intestinal parasites, malaria, pyelitis, cystitis, overfatigue and improper feeding which will be discovered among the more than 100,000 who are malnourished. When one stops to consider the size of our school medical problem and the enormous handicap under which many children labor in an endeavor to secure an education, one cannot help but wonder why more organized medical work has not been instituted.

For several years the State Health Department and the State Department of Education have given considerable attention to school inspection. The present state law is designed to secure the examination of all children in public school every three years. The law provides for the examination of the children by teachers, and then provides that the parents of children found to be diseased, shall bring them before a medical man for examination. Any parent, by sending a written notice to school, may prevent the medical examination of his child. This should certainly be changed so that if there is objection to examination at school, the parent shall be required to have such examination made, and the card filled out by the family physician. Another weakness of our present law is that it does not require any special training course for teachers who are to make these examinations. It would seem highly desirable that she, at least, should have been given a course of instruction before being requested to pass upon the things that a well trained medical man may have difficulty in deciding. We need her co-operation, but she should be trained for this work. We believe that these examinations are too important for any lay person to decide. To have them made by a nurse is certainly far from ideal. Some of these examinations really require medical specialists to render a decision, and, whenever possible, they should be made by a medical man. This is the only way that most diseased conditions can be discovered. Medical men often hurry over these examinations and miss many important conditions.

What are we doing? During 1927 officers of the State Board of Health, including co-operating County Health officers, examined 104,638 children, dentists 60,000 and nurses 259,862. It is likely that many
of these were duplicate examinations. The children in two or three other cities in the State were examined and probably a few children were examined by private physicians co-operating with local parent-teacher associations. From the corrections reported we would judge that we are hardly touching the problem excepting the dental work. During the year dentists employed solely by the State Board of Health gave 33,522 treatments and 17,860 other corrections were reported. Even making a big allowance for treatments made by physicians and not reported, we would judge that a very small part of the children who should have medical care are receiving it.

During recent years the National Congress of Parents and Teachers has begun a movement to have every child given a careful examination before it enters school and to have all defects corrected. The children are also vaccinated and given toxin-antitoxin when necessary. In some places this work has been performed by the practicing physician, either by having the children come as private patients to his office, or in groups at the school, the work being done either voluntarily or on a part time basis. After the diseases are discovered an effort is made to have them corrected. We believe this to be one of the best movements which has been started for the promotion of good health among school children and one which should be encouraged in every way by the physician. It gives him an opportunity to find a large number of diseased conditions which should be given medical care. It also gives him a good contact with both the patient and the mother after their interest has already been aroused.

Practicing physicians should examine more groups of school children in the communities in which they live. By doing this they are rendering a distinct service to the community and also to the profession. They would find many cases for themselves and their brother physicians to treat. Where there are several physicians in a community they should work together to obtain the examination of all children in that community.

The family physician is always consulted about any disease found among his patients, either by a school physician, a nurse, teacher or other physician. He is often approached in an effort to make his disagree with the previous examination. Many parents when told that a diseased condition exists, deliberately go from one physician to another, until they find someone, off his guard, who tells them what is desired. The best results are secured when the patient is gotten into the physician's office and the mother is painstakingly told just what is the trouble with the child, and what is needed for its correction.

The physician should encourage parent-teacher associations and teachers to invite him to give short talks on various health topics. In this way he can gradually educate his community as to what really constitutes a good medical care. Parents will then be more inclined to call the physician when needed, rather than use every remedy suggested by anyone in the neighborhood.

Physicians occasionally assume an antagonistic attitude toward school physicians, nurses, teachers or a brother physician who examines a group of school children and suggests that some of them may be suffering from eye strain, overfatigue, diseased tonsils or other diseases. When those advised come to see such a physician to have the disease corrected, the examiner is sometimes criticised for finding a diseased condition which really should have been found years before. It will probably be many years before all children will be taken to the family physician at regular intervals for a careful examination and all diseased conditions corrected. The practicing physician should appreciate the efforts of nurse, teacher, or school physician, to have a diseased patient come to see him, and instead of feeling that another is encroaching upon his work, should welcome the assistance which has been rendered, even though he may disagree as to the diagnosis.

**Conclusions**

1. Only a small part of the 818,000 school children in North Carolina are given an annual examination by physicians.

2. There are probably 350,000 or 400,000 diseased conditions existing in this large group which should be found and corrected if our school population is to grow up healthy.

3. The examination of school children is distinctly a work for the physician if anything like all defects are to be found.

4. As most of the work of correcting the diseased conditions found among school children will come back to the practicing physician, he should take a more active
interest in finding these conditions, and to this end he should,

(a) Assist in every way possible the local Congress of Parents and Teachers to examine all children entering school for the first year.

(b) He should co-operate with his brother physician to secure an annual examination of all school children in his neighborhood.

(c) He should give sympathetic assistance to the nurses and teachers in securing corrections of diseased conditions.

(d) He should give practical instruction in hygiene to gatherings of boys and girls, parents or teachers whenever this is possible.

(e) He should be very careful when examining a patient brought him by a parent who is very anxious to have him give a different opinion from one which has been given by another examiner.

Our dental friends are going far toward giving our children healthy teeth. I have never heard a practicing dentist criticize a school dentist. They know that if the children are taught proper care of their mouths, when those same children are older and continue to have decayed teeth and other diseased conditions which need dental care, having been properly trained, they will know where to get the service.

If we physicians hope to eliminate quackery, to teach the public what constitutes good medicine, and above all, to make our people strong and healthy, we must lose no opportunity to reach the boys and girls of our public schools and so train them that they will always have that faith in us as physicians, which has always made the practice of medicine a glorious profession.

We need all the assistance which the teacher can give to the work and she should be required to take a course of training which will, at least, partially fit her for this important work.

MILK IMPORTANT FOR SCHOOL CHILDREN

Now that schools are opening again and large numbers of children, who have had the freedom of the summer at play and otherwise, will be confined for three-fourths of the year, several hours a day, in school rooms, it is more important than ever before that parents should pay very close attention to the food provided for the children.

One of the most essential and necessary foods for young and growing children is milk. It is almost as necessary for a child during the first four or five years of school as it is for the infant in the crib. In the opinion of most physicians and scientists, who have the best right to know what is the most suitable diet for children, it is practically agreed that milk is one of the best of foods, but that it should be given, largely speaking, at home.

If a child receives a pint of milk, say, at school about the middle of the day, at a luncheon near the noon hour, and school is dismissed around one-thirty or two o'clock and the child goes home and is expected to partake of a midday meal, the parents find that such children have little or no appetite for other food, which is almost as essential, such as fruits and vegetables. If the school lunches could serve some other diet, such as various vegetable soups, plain, warm, dry toast or buttered toast, and either one of many articles of food equally as suitable, and insist
Detroit, but, being treated at one hospital, the city health department has been able to get complete histories of all of them.

Some of the conclusions reached, based on their experience, is that it is unquestionably advisable to remove the contacts just as soon as possible, that is, the susceptible contacts, children under 16 years of age. These children thus exposed should be removed to the home of some adult relative or friend, or children having the disease should be immediately removed to a hospital for treatment and care. This should be done just as soon after the onset of the disease as possible. The Detroit people definitely learned that when "one or the other of these procedures is followed only slightly more than one out of twenty persons exposed contracts the disease as compared to approximately one out of five when the contacts stay at home with the patient. You are, if susceptible and exposed to scarlet fever, practically four times as likely to get it if you stay at home with the case as you are if the case is promptly removed to the hospital or if you go to live with some adult friend."

In our opinion this careful study and detailed report establishes an important step in advancement in the handling of scarlet fever patients. We know for the most part that such things have generally been left to the judgment and the convenience, we are sorry to note, of the parties involved; namely, physician, parent, and child. There are still many things for the physician to exercise his judgment about, even though this plan be followed in our cities and towns. Such questions as what constitutes a contact, and when and how exposure to the disease constitutes a real danger, and many other questions a physician is alone competent to settle.

The routine administration on a wholesale scale of scarlet fever preventive treatment is not recommended on account of several sufficiently sound reasons. This does not mean, however, that preventive serum should not be used. We mean that the preventive serum should only be used by the attending physician or, at his request, by the health officer after such contacts among children react positively to the Dick Test.

The Journal of the American Public Health Association reports that out in Gary, Indiana, the authorities there have been making an effort since the middle of 1924 to immunize the children of that city against scarlet fever. It is interesting to report that their procedure has been to make a Dick Test of all the children and only to give the preventive treatment to those who re-act positively to the test. This is one of the few cities which have undertaken the control on a large scale. In that city, according to the Public Health reports, they have made a practice of giving five doses of the preventive treatment at intervals of five to seven days following the positive re-action to the Dick Test. Two weeks after the last dose is given another Dick Test is made to determine the immunity of the susceptible children. They have found there that younger children show a higher incidence of positive tests than older children. In that city, where many foreign born children live, they have found that the American children have positive re-actions more than the foreign children.

One discouraging feature of their report is that after this procedure only 66 per cent of the children show negative results as to immunity from the disease. They conclude there, however, that the incidence of scarlet fever, as well as the number of deaths, has decreased among those taking the preventive treatment. We think, however, that their experiments there would not justify such an undertaking at present as a part of any public health program in our State. Naturally this opinion and advice might be changed overnight should the appearance of scarlet fever in one or more sections of the State develop into anything like epidemic proportions, or should the prevailing mild type of the disease, which has been present for the last three or four years for the most part in North Carolina, change to the more virulent type, formerly seen in practically every county of this State. Also if a preventive treatment should be perfected that would require a less number of doses to establish immunity and one which would result in less severe re-action, it might at sometime become advisable to handle the matter as we now deal with the prevention of typhoid and diphtheria, through preventive vaccines.

Between 1906 and 1926, rising standards of medical education created a difficult situation for smaller medical schools and the number of medical colleges in this country dropped from 152 to 80.—Ex.
on the milk being taken at home, a better and more balanced diet can be maintained. The milk taken at school is satisfying and filling, and leaves no appetite for sometime afterward for other types of food.

For the children who cannot get a sufficient quantity of milk at home, for the undernourished children who need an excess quantity of milk, and for those whose home surroundings are bad, and who, for other reasons, fail to get a suitable quantity of milk, the provision supplying milk at school is entirely proper.

To properly safeguard the children's health and to decide which children should have the milk at school and which should be expected to get their milk at home naturally requires a very close cooperation between the teachers and the parents. This cooperation is necessary and proper anyhow and is naturally a necessity from many standpoints, in addition to the single matter of diet.

Every now and then a milk-borne epidemic occurs somewhere in the United States. Children and adults are infected with septic sore throat, sometimes diphtheria, scarlet fever, and once in a while typhoid fever now. When such an epidemic occurs, the newspapers from one extreme of the country to the other give the matter wide publicity. But for the millions and millions of bottles of milk which are delivered every morning before day-light on the door steps of the families throughout the country, which is safe and a fine food, no publicity is ever given.

It is proper, however, for all school authorities and for the heads of families to make sure that the milk supply procured and administered to children is safe and produced under minimum sanitary safeguards. This is necessary, because, as we have so often pointed out in these columns, while milk is one of the finest available foods, and has been for thousands of years, it is at the same time a food which is capable of easy transmission of bacteria, and, therefore, infection is easily contracted when the milk is polluted.

The safest milk, of course, to utilize in cities and towns is milk that is properly pasteurized, but for the country consumer who produces his own milk for his family and for the public supply in the very small towns and villages proper commercial pasteurization is at present not possible. Therefore unusual effort should be made on the part of such people to protect such individual and small commercial milk producing supplies.

But the purpose of this article is to especially call attention to the necessity for somebody to make it their business to see that every young school child has a sufficient quantity of available sweet milk of unquestioned purity and food value every day in the year.

**SCARLET FEVER**

So far this year, up to the time these lines are written, we have had about the usual number of scarlet fever cases in this State as heretofore. As a rule, when schools open in the fall, contacts are more direct and there is usually an increase in the number of patients reported as having scarlet fever.

There is now a definite test which indicates the susceptibility to scarlet fever, known as the Dick Test. This test is similar to the Schieck Test, which, as most of our people now know, is used to determine the susceptibility of children to diphtheria. The use of this test at present is not advised as a routine measure for school children or others on an extensive scale. It is a very valuable measure for the practicing physicians to use upon all contacts upon the appearance of scarlet fever in any family or any neighborhood or school. One difference in the test is that liability to the disease, or immunity from it, may be determined in a much shorter period than in the test for diphtheria.

During the last few months the health department of the city of Detroit, Michigan, has made an extensive effort to prevent the disease among the children of that city. The department has made an intensive study of all phases of the subject and have carried out some careful experiments and made a complete survey of all the children who have had the disease in one of the largest hospitals there during the year 1927. The Detroit health department reports that 1,572 cases of scarlet fever were cared for in one of the hospitals. The health authorities secured a careful list of all children under 16 years of age who were exposed in any way directly to the disease, in addition to the number of cases actually developing. This number of cases was, of course, not all that occurred in
Detroit, but, being treated at one hospital, the city health department has been able to get complete histories of all of them. Some of the conclusions reached, based on their experience, is that it is unquestionably advisable to remove the contacts just as soon as possible, that is, the susceptible contacts, children under 16 years of age. These children thus exposed should be removed to the home of some adult relative or friend, or children having the disease should be immediately removed to a hospital for treatment and care. This should be done just as soon after the onset of the disease as possible. The Detroit people definitely learned that when “one or the other of these procedures is followed only slightly more than one out of twenty persons exposed contracts the disease as compared to approximately one out of five when the contacts stay at home with the patient. You are, if susceptible and exposed to scarlet fever, practically four times as likely to get it if you stay at home with the case as you are if the case is promptly removed to the hospital or if you go to live with some adult friend.”

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REST CLASSES FOR UNDERNOURISHED SCHOOL CHILDREN

In some of the larger and wealthier schools about over the country the habit of having rest rooms equipped with cots has practically superseded the former plan of open air schools for undernourished or ailing school children. These rest rooms, when properly equipped with available sunlight and fresh air, through plentiful window space, and equipped with cots and other paraphernalia necessary for rest and comfort, would seem to be a practical plan of improving the health of certain classes of school children.

When children are too much under-weight, and especially when this under-weight is associated not only with errors of diet at home or insufficient diet but with certain forms of heart trouble or a tendency to tuberculosis, some uniform plan of rest and correction of nutritional defects is required or such children have to be taken out of school.

The original plan of open air schools for the care of children suffering from active tuberculosis has been found best to establish generally in connection with sanatoria for the treatment of tuberculosis. In the first place, the general school system of any county is not competent to establish a school and to conduct it in a safe manner for children suffering actively with tuberculosis. The expense, of course, where undertaken, has been rather large, and from a practical standpoint it is now advised that—the sanatoriums for tubercular children are the places best equipped to treat such children, as well as to provide them with the necessary school facilities while undergoing the sanatorium treatment.

We know, however, that there is a large number of undernourished school children, and while this is no place to go into a general discussion of malnutrition, it is sufficient to say that a large per cent of these undernourished children can be greatly benefitted and still have the privilege of attending the regular schools. Thus the plan has been devised of equipping rest rooms and having a certain period every day, varying in length from forty minutes to one hour, depending upon the general length of the school day in any particular locality, in which such undernourished children are attending school. They are given a glass of fresh sweet milk each and put to bed in the cots for a quiet period of absolute rest. This plan is now becoming popular as well as practical.

In some places the school authorities have set aside a particular hour in the day, applicable to the whole school, in which such children are sent from their classrooms all over the building to the special rest room. Many teachers have complained that this plan has considerably disrupted the school schedules because it takes so many children away from classes which it is important that they attend. To meet this complaint health authorities in a number of places simply require that the rest period be utilized by the children of each grade at a time most suitable to the children and the teacher. In this way there is no spectacular and imposing march to the rest room distracting the attention of the whole school and centering the attention of all the pupils upon the children singled out for this special attention. Children from each room quietly go to their cots, when excused from the class, at the proper time. This plan is very easy to carry out if the part-time service of an extra teacher can be utilized, or, what would be better, in the very large schools having a nurse in attendance upon the school, to have the nurse assume the duty of oversight of the rest room throughout the whole period utilized.

For children re-acting to the tuberculin test and yet who, upon careful examination by tuberculosis experts, are not found to have active infection manifested anywhere but at the same time are underweight, this plan adopted at school is regarded an excellent help to better health. Of course the ideal method would be that every child have a short school day, and upon return home, about noon or soon thereafter, be given a nourishing meal at home and immediately put to bed by the mother for at least one or two hours each day throughout the whole school session. Such would be the best arrangement, but in the average home, we might say, let alone the sub-average home, such an ideal system is impossible to carry through. Thus the rest rooms, as established in some of the larger schools, offer excellent help to sub-normal children.
SCHOOL HEALTH DAY FOR THE COLORED CHILDREN OF
WASHINGTON COUNTY

A group of colored school children, with their parents, called together at the school house for physical examination by two State Board of Health Nurses. A plan we use when schools are not in session. Note how well dressed the children appear. The notices were received by the parents only the day before to come the next A. M. The committeemen of the school are in the group. They are all farmers. Some have lived in the community for fifteen years and are intelligent law-abiding citizens. This is a fine opportunity for the nurse to give health talks to the parents, urging them to keep cows and not to neglect their gardens when raising tobacco and cotton. There is never a group that has not heard of pellagra and seen it, white or colored, which fact tells its own story.

Health education is the stick to kill the hydra-headed serpent disease.

These counties are not visited but once in three years. This is the only health inspection these children get. There are about sixty counties in the State like this.
A REVISED TEST CARD FOR TESTING THE VISUAL ACUITY OF SCHOOL CHILDREN

For several years there has been a multiplicity of visual test cards for use by nurses, teachers, and lay organizations for the purpose of making the test to determine the most common and extreme instances of errors in vision among school children. The test cards most commonly in use, however, have been the Snellen card.

The National Society for the Prevention of Blindness, with headquarters at 320 Seventh Avenue, New York City, has prepared and offers for sale to boards of health and school officials throughout the country, as well as to physicians who want to use or distribute these cards, two new charts. This work has been done at the request of various health officers and others concerned with the testing of the vision of school children throughout the country. The cards have been carefully prepared by experts, and the characters and letters used have been drawn scientifically to scale, so that the charts are accurate and may be depended upon for locating the simpler refractive errors.

There are two of the charts. One is the regular letter chart, and the other is the "Symbol E" Chart. The latter may be used in testing the vision of pre-school children or kindergartners and children of any age too young or unable to read. Both of the charts are drawn to the foot scale.

In the sale of the charts the society provides the purchaser with a copy of a pamphlet entitled "How to Test for Visual Acuity." This pamphlet is a reprint from the recently revised edition of "Conserving the Sight of School Children," which was a report of the Joint Committee of the Health Problems in Education of the National Educational Association and the American Medical Association.

Both charts are printed on rolled linen and are sold at a cost of twenty-five cents each; or for those wishing the simple cardboard chart the price is twenty cents for each copy. In addition to the aforementioned prices there is a small extra charge for postage, depending on how many charts are ordered at one time, of course. These charts may be recommended to school nurses and health officers needing such material.

SPECIAL NOTICE

1. The simple Snellen test reveals but a small percentage of the actual number of refractive errors in child.

2. The myopic eye is nearly always discovered with the use of the simple Snellen test.

3. The hyperopic eye is rarely found with the simple Snellen test, and then only the very severe types are revealed.

4. The astigmatic eye may be found with the simple Snellen test. Of course the simple Snellen test does not reveal the type of visual defect; it shows only that certain eyes can read only certain letters at a specified distance.

5. The frequency of myopia tends to increase between the seventh and twelfth years. This is very important, as myopia may develop rapidly. For this reason all school children should have the simple Snellen test twice a year.

6. Of the 66 per cent of eyes which read 20-20 or better and appeared normal, 32 per cent read 20-50 or worse when a cycloplegic was used, thus indicating that
many eyes work under a handicap. Nearly one-fifth of all the children tested 20-100 or worse after the cycloplegic.

7. The hyperopic eye tends to improve with advancing school age.

8. The myopic eye tends to grow worse with advancing school age.

9. These results emphasize the necessity for regular annual examination of eyes which are known to be defective.

A COLLEGE STUDENT'S KNOWLEDGE ABOUT HEALTH

At a meeting of the American Public Health Association in May, 1926, Dr. Livingston Farrand, president of Cornell University, presented a summary of what in his opinion the college student should know about health. This summary presented by Doctor Farrand was published in the New York Times. It is such a concise presentation of the question and, therefore, should be of interest to the several thousands of college students matriculating in the various colleges of North Carolina this fall, that we herewith present the summary exactly as stated by Doctor Farrand.

1. He should have a knowledge of the physiological basis for sound health habits, such as regular and sufficient hours of sleep, right posture, suitable exercise, and proper elimination.

2. He should know the types, amounts, and proportions of the various food elements essential to the proper nurture of his body.

3. He should have an acquaintance with the principles of normal mental action and the conditions underlying the more common variations from normal state of mind.

4. He should have a general understanding of the sex instinct—its stages of development, its normal expression, and the values and penalties attaching to it.

5. He should have a knowledge of the factors determining infection and resistance and the principles of artificial immunization in the case of certain of the common infectious diseases.

6. He should have enough knowledge of the causes and prevention of the degenerative diseases to offer a prospect of passing through middle life without a breakdown.

7. He should know, and, therefore, be armed against, health hazards lurking in the environment, such as polluted water and milk supply, congestion in housing, poisonous dusts of certain industries, infected soil, etc.

8. He should appreciate the necessity for frequent medical and dental examination.

9. He should have an intelligent basis for choosing wisely his medical and dental advisers, and for realizing that the modern practice of medicine is grounded on science and not on mystery, fancy, and tradition.

10. He should have a knowledge of the important health problems facing the community, of the methods of attacking those problems, and of the results to be expected from intelligent community action in the public health field.

WORTH WHILE THINGS

"What is most worth while? Health is, for one thing. I do not mean simply the abounding vigor of youth, with abundance of fresh air and exercise and with its reserves which seem to mock the warnings of elders. I mean, rather, the sustained and protected strength which is based on the conservation of physical resources and gives promise of a long life well lived.

"In our onward journey the ranks are rapidly thinned by the passing out of those who had their brief day and were soon done. When their notes matured they were unable to meet them. Nothing is sadder than these physical bankruptcies, which deprive men and women of opportunities when with the capital of experience well invested they should have the most ample returns." Charles E. Hughes.
IF YOU DON'T WATCH OUT

BY LOUISE F. BRAND—Wisconsin Anti-Tuberculosis Association
(With apologies to James Whitcomb Riley)

We got a bran' new health nurse't come to our school today
To look us children up an' down an' watch us work an' play.
She weighs us an' she measures us, an' ef we're under weight,
She tells us what we orto eat an' makes us clean our plate.
She sez we must drink lots o' milk an' pure, fresh water, too,
An' if we want to grow up strong, she knows jes' what to do.
You'd be surprised ef you shud hear the things she tells about,
An' the pesky germ's at git you

EF YOU
DON'T
WATCH
OUT.

"An' wunst they wuz a little girl sed "Vestubbles I hate!"
An' goodness sakes, you orto see the kinds of things she ate!
Whenever they wuz candy, she'd hog more than her share,
An' ef they sed 'twant good for her, she sed she didn't care.
She'd lunch on greasy doughnuts an' she just loved pie and cake,
She gobbled down her food so fast she got the stummick ache,
An' bye'n bye when she got big, she had rheumatiz and gout,
An' the pesky germ's 'll git you

EF YOU
DON'T
WATCH
OUT.

An' wunst they wuz a little boy 'at wouldn't brush his teeth,
An' he had ragged fingernails, all dirty underneath,
He wouldn't ever go to bed till awful late at night,
An' ef he felt a breath of air, he'd shet the windows tight.
An' ev'rytime he had a cold, he'd sneeze, an' sneeze, an' sneeze,
An' sed he didn't care a rap how much he spread disease,
An' so he kep' on sneezin' an' scatt'rin' germs about,
An' those pesky germ's 'll git you

EF YOU
DON'T
WATCH
OUT.

An' both our nurse an' teacher sez ef we ain't little fools
We'll take a warnin' while we're young and keep the good health rules.
An' wash our hands before we eat and eat jes' what is right.
An' sleep with windows open wide at least ten hours each night,
Drink lots of milk an' brush our teeth an' get a great big share
Of somethin' free 'at's good for us, the sunshine an' fresh air.
They'll make us all so healthy that we'll want to laugh an' shout,
An' SPITE those germ's 'at git you

EF YOU
DON'T
WATCH
OUT.
ON STARTING SCHOOLING RIGHT

We take great pleasure in quoting below a leading editorial from *Southern Medicine and Surgery* by the editor of that journal, Dr. James M. Northington, under the headline at the head of this article. Doctor Northington discusses in an intimate manner and with intelligent and sympathetic interest quite a number of problems that are uppermost in the minds of parents and teachers at present. We wish to commend this editorial to the careful reading of the teachers of North Carolina. This one editorial contains sufficient meat for at least two or three months daily exercise on the part of any wide-awake grade, especially from the fourth to the seventh, inclusive. We hope every wide-awake teacher in the public schools of North Carolina will read this article and proceed to put certain suggestions into effect immediately.

"The wise address with which Doctor Kitchin inaugurates his conduct of a 'Presidential Page' decides us on writing now something on a phase of education, which it has long been in our mind to write. With Doctor Kitchin's thought that every one, certainly every professional man, should have enough general education to teach him how to live, before beginning his training for making a living, we are in entire accord.

"There is much concern over the long school hours of young children. In many widely scattered cities this concern has led to activities, on the part of parents, pediatricians and others, having as their objective the shortening of the school day for these little fellows.

"The arguments put forward are: that the health of these children is injured by having them stay indoors later than noon, that they should be turned loose to play in the open air all the afternoons; and, moreover, that they learn more in the mornings than in the mornings and afternoons combined.

"We do not undertake to say that all these arguments are valid; only that the opinions they represent are widely held, and by intelligent persons vitally concerned that children shall be educated and that they shall remain healthy. We are confident that we can outline a feasible plan by which both the school hours and the hours of play in the open air can be lengthened, interest to know greatly stimulated, school work made a pleasure instead of a burden—with an incalculable gain in the laying of a solid foundation for that broad education which multiples capacity for happiness and usefulness.

"No great discovery has been made.

This fine baby is listening to the music of the surf while taking his sun bath on the beach at Beaufort.
to approach the discussion of the subject with his children. What could be easier than explaining that the lovely flowers and the waving corn have male and female parts which must unite if reproduction is to take place? With this line of approach the sex question at once appears as one in which instruction can be given freely, openly and unashamedly; whereas a moment ago the duty was contemplated with a feeling of distaste, if not of same, or even panic.

1Is not each one of us ignorant of many things which he would have known, had abundant opportunity been afforded for free questioning of his teacher? The plan suggested provides ample opportunity for such questioning, and every child's every question is entitled to dignified consideration and respectful answer. Of course many questions would be asked which the teacher could not answer, some even which no one could answer. The teacher would carry along a book in which to record these questions, do her best to obtain the answers from reference books or persons likely to have that special knowledge, and report on the next expedition. It is generally thought that the human mind came to its finest flower in the Golden Age of Greece. In that age teaching was by the freest questioning and answering between teacher and pupil; the pupil doing most of the questioning. By this method, too, pupils could be given a better command of language in their first three years under teachers, than is now obtained from the average course of instruction culminating in four years in college; for abundant opportunity would be afforded for correcting the talk of the pupils—a far more important thing than correcting so-called, literary exercises.

Of course, it will be argued that teachers cannot be found capable of giving all this instruction. Equally, of course, that is true; but any teacher of ordinary comprehension, interested in the improvement of her own and her pupils' minds, can readily obtain the information from books on elementary botany, zoology, geology and astronomy, from State and Federal free publications and from individuals.

It seems plain that the tremendous interest shown in baseball, football, golf, motion pictures and prize fights is in the number of devotees of these pastimes are not attracted to them, but are driven to them by a blind impulse on the part of these persons to try to get away from themselves in the intervals between periods of sleep.

“A generation early given a strong taste of the beauties and wonders of nature and a love of books, encouraged to retain the child's urge to know, and given in its few school years a sound working knowledge of its mother tongue, will be little moved by the Tunneys! the Babe Ruths, the Walter Hagens, the Ruth Elders, the Douglas Fairbanks,; or the Henry Fords. It will set great store by its John Burrough's, its Edisons, its Harry Chases, its Osler, its Tafts, its Wilsons, its William Louis Poteats. A civilization so educated will feel no need, and have no taste, for meetings devoted to repetitions of childishly simple 'slogans'; conversation in terms of 'service,' 'sell yourself,' 'efficiency,' mutual back-slapping and the roaring of foolish songs. ‘Orders' with resounding titles, grotesque uniforms, rituals made up of platitudes, and initiations in which shocking with electric charges and ducking into icy water are most popular features will languish for lack of recruiting material. Motion picture shows—certainly such as we have now, and of which William Allen White asks, 'Are they a mess or a menace?' —will find little favor. There will be a slowing up in the mad rush to get nowhere.

"Such a civilization will buy many Harper's, few American Magazines, and no True Confessions.

"Those called educated will again be conversant with The King James Version, Homer, Plato, Shakespeare, Hugo, Thackeray, Dickens, Keats and Poe; and, for the first time, will have so intelligent a comprehension of natural history as to make impossible the entertainment of superstitions—religious, medical or ku klux.

"Most important of all, the individual will be his own necessity—keeping his friends as luxuries; for he will never lack something to think about, and he will always have the equipment for thinking. Having content, with intelligence, he will be at home with himself."—Southern Medicine and Surgery.

"O, my goodness gracious, nature,
It's the queerest thing to me
Why all mankind don't drink more milk.
O! O! goodness gracious me."—Ex.
THE STUDY OF PHYSIOLOGY

The United States Bureau of Education at Washington, in one of its Physical Education and School Hygiene Circulars sent out this summer, makes the following statement concerning the present status of physiology in the schools and colleges of the country:

"According to an investigation by Dean Ruediger of George Washington University, 30 per cent of college juniors, seniors, and graduate students have never studied physiology in high school or in college; and yet four centuries ago Melancthon said that it is a disgrace for a man not to be informed regarding the structure and functions of the body."

The foregoing paragraph should be seriously pondered by all educational authorities everywhere in the country, especially those who are responsible for the curriculum of the schools and colleges. The statement attributed to the Dean of the George Washington University indicates, as it will be noted, that practically two-fifths of all the school and college students go out from the schools annually without having the slightest idea of physiology.

In our opinion the study of physiology should be one of the most important branches taught in any school or college. As it is, it is one of the most neglected subjects, and that is probably true because the history of physiology teaching has by no means been a happy one. In the first place, the textbooks selected have for the most part been impossible, and of all the dry studies that a student could possibly be set about to tackle physiology has probably headed the list. The textbooks have been dry and uninteresting. The teachers have not been interested in the subject to begin with for the very fact that those who had studied it at all had found it so impossible and uninteresting that they were ready to do anything to evade the responsibility of trying to teach it to the class. Thus when it has been taught at all it has been done in a perfunctory and uninteresting manner.

There could not possibly be any subject of more interest and genuine satisfaction, especially to high school students, than the subject of elementary physiology. The first requirement in making the study interesting, of course, must be a teacher who knows something about the subject and who is interested in it; and the second requirement must be a textbook for the pupil to study that is written in an interesting manner and that presents facts in logical sequence and not as simply a jumble of dry statistics and technical terms. The prime need to begin with is a series of textbooks beginning with the first year of the high school and ending with the first year in college.

Ninety-nine out of every hundred systems of textbooks available at present are undesirable from many standpoints. Much of the stuff is antiquated, from standpoint of scientific accuracy. Many of the writers of textbooks on physiology have seemed to be obsessed with the idea of filling the space with something. Much of it is composed of traditional and handed-down material which cannot stand an analysis according to present day scientific standards. We should like to suggest a closer co-operation between medical authorities and writers and educational writers and teachers in the hope that a satisfactory system of textbooks on physiology may be soon evolved which can be adopted in the schools, and which the pupils will find interesting and helpful.

THE EATING HABIT

Parents Urged to Get Children to Form Proper Eating Habits Early

One of the most important and neglected features of child training in the average family may be said to relate to the lack of consistent effort on the part of the parents in seeing that proper eating habits are established by their children at a very early age. We all know that there is abundant advice available for every parent on "What to feed a baby on." There is an expert on every corner, so to speak, ready with a formula, hours of feeding, how to hold the bottle, and so on, with reference to the baby up to eighteen months or two years of age. With the standardization and organization and other activities of the National Congress of Parents and Teachers the pre-school child from five and one-half to six years of age
is now receiving a great deal of attention. Thus the neglected field is shortened a

The reason from about the first half to about five

and one-half years is a difficult one for the

child and for the parent. It seems to be

a period of floundering and uncertainty.

Somebody has designated such children as

being in the “run-about” age. That ex-

presses it about as well as anything could

be done. It is easy enough to see that such

children wear the proper clothing, because

it can be put on them and they cannot

well get it off. But proper food and eat-

ing habits is another question altogether.

A goodly portion of the ills of this life

have to do with the habit of eating. All

of us either eat too much, eat too little,

partake of improper food and drink, or

otherwise fail to observe correct eating

habits from early life on to old age. There

are proper standards of eating which, if

observed, would conduces to more happiness

and success for all of us.

It will not do to leave a child just out

of the baby stage to its own device in the

matter of eating. The grandmother has

had a lot of fun poked at her, and a lot

criticism has come her way for spoiling

the child’s digestion and otherwise upset-

ting the schedule; but she should be given

credit at least for giving these little run-

abouts nourishing food in essential quanti-

ties at a very necessary period of the young

ones lives.

Who of us that are parents have not

read at least to our children the great

stories of Uncle Remus by Joel Chandler

Harris, and who of us when reading these

lovable stories have not felt a poignant

interest on taking up the stories of the sec-

ond little boy; that is, the little son of

the original little boy who learned wisdom

at Uncle Remus’s knees. This second lit-

tle boy, you will recall, came from the

city, with the city mother’s modern ways,

and soon demonstrated to the old negro

that he was a little gentleman, so far as

the manners and customs of polite society

extended. But his training had been very

deficient in guiding the little animal pro-

clivities that are necessary to the helpful

development of every growing youngster.

The average healthy adult, when placed

before a proper aggregation of food, may

be trusted, as a general rule, to select a

fairly reasonable and adequate diet; but

the child cannot and will not do it. His

attention will be singled on some one item,
of vegetable used on the average table. There should be some eggs or other light digestible meats in the diet of every child every day. As a rule, adults eat too much and not enough meat is allowed growing children. It is a matter of scientific knowledge at present that growing children require a relatively larger amount of meat than do adults. There should, of course, be some sweets in the food every day.

Such items for the most part should be in the form of pure honey, preserved fruits, jellies put up with pure cane sugar, or other such light natural sweets.

The main essential is to force the child to form the habit of eating the proper kind of food from the earliest age possible on through its growing years. Such a habit establishes the foundation for good health, which will last all through life.

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**PRACTICAL APPLICATION OF SANFORD-BINET-SIMON TESTS**

**BY**

**WALTER S. CORNELL, M.D.**

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**AT THREE YEARS**, the normal child can

1. Point to parts of body: "Show me your nose, your eyes, your mouth, your hair."
2. Name familiar objects shown to him: key, penny, knife, watch, pencil.
3. When shown a picture, names at least three objects in it.
4. Knows whether he is a boy or a girl.
5. Can tell his name, including his last name.

**AT SIX YEARS**, the normal child can

1. Distinguish left from right: "Show me your right hand, your left ear, your right eye."
2. Can notice what part of a picture is missing.
3. Has common sense: "What's the thing to do, if it is raining when you start to school? If you find that your house is on fire? If you are going some place and you miss your car?"
5. Can name coins when shown them: Nickel, penny, quarter, dime.
6. Can repeat 16-18 syllables, as "Walter had a fine time on his vacation; he went fishing every day."

**AT NINE YEARS**, the normal child can

1. Tell the date, including the day of week, month, day of month, and year.
2. Arrange five boxes the same size but of different weights (3, 6, 9, 12 and 15 grams) in the order of their weight, without being shown how to test them.
3. Make change: 4c from 10c, 12c from 15c, 4c from 25c. (May not use pencil and paper.)
4. Repeat four digits backward. (Read the figures to him slowly, about one per second.) 6-5-2-8, 4-9-3-7, 8-6-2-9.
5. Make a sentence to include three given words. (a) "Make up a sentence for me that has these three words in it: boy, river, ball." (b) Work, money, shirt. (c) Desert, river, lake.
6. Can make three rhymes for a given word, illustrate rhyme with hat, cat, cat. Three rhymes for "day," three for "mill," three for "spring."

**AT TWELVE YEARS**, the normal child can

1. Tell the meaning of certain abstract words: "pity," "revenge," "charity," "envy," "justice."
2. Re-arrange jumbled words into a sentence:

**FOR THE STARTED AN WE COUNTRY EARLY AT HOUR. TO ASKED PAPER MY TEACHER CORRECT I MY. A DEFENDS DOG GOOD HIS BRAVELY MASTER.**

3. Tell interpretation or explanation of a picture, not merely description.
4. Repeat five digits backwards as 3-1-8-7-8, 6-9-4-8-2, or 5-2-9-6-1.
5. Tell the meaning or "moral" of a fable, as "The Fox and the Crow," etc.

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A FEW DENTAL SENTENCES FOR THOUGHT

BY

WALLACE F. MUSTIAN, D.D.S., Norlina

There is possibly no part of the body which affects the general health more than the teeth. They play their part either for benefit or detriment of the body. Yet, most people even until this late date seldom ever think of their teeth until they begin to ache. Chronically infected teeth constantly throw into our blood stream infections and poisons which are capable and do, do great harm to the person who has such teeth.

The following sentences will give you some ideas for thought.

A. A clean mouth is usually an indication of good health.
B. Clean teeth as a rule do not decay.
C. Decay of the teeth is influenced by the health of the individual.
D. Digestion begins in the mouth and is always hindered unless the teeth do their part in thoroughly chewing the food.
E. Well chewed food is easily and more completely assimilated than poorly masticated food.
F. Make complete and efficient mastication a habit.
G. Your teeth are as much of your digestive apparatus as the glands of your stomach.
H. Chewing is easy when the mouth is in a good state of repair.
I. Decayed teeth or an unhealthy mouth always result in inefficient mastication, and resulting stomach and intestinal troubles.
J. Bleeding, sore, and swollen gums should have immediate dental attention, if not the teeth will always suffer.

K. Dental repair and prophylaxis are the only practical means to save the teeth.
L. All should go to their dentist for dental examinations and work if needed at least every six months.
M. Inspections by an efficient and conscientious dentist at regular intervals prove economical from a dental, health and financial standpoint.
N. Six minutes a day with a tooth brush properly used mean clean teeth and a healthy mouth.
O. Every effort should be made to save the teeth providing they are not chronically infected.
P. A filled tooth is better than a vacant space in the dental arch.
Q. Chronic tooth infection from divitalized or pyorrhetic infections usually cause toxin absorption by the body, and resulting disease of serious nature.
R. Neglect of your teeth means old age or senility, for who does not look old when he has lost his teeth.
S. Nearly 100 per cent of those who have been compelled to have their teeth extracted before the age of fifty-five or sixty has had to do so because of tooth neglect in early life.
T. Three minutes by your watch twice a day may pay higher dividends in both money and health than anything you can do.
U. If your teeth give you trouble it is usually your own fault.

Study the above sentences and you will earn a dividend on your future dental bills and good health.
Journeying year by year
With forward face and unreluctant feet
Not hurrying to, nor turning from the goal
Not looking mournfully upon the dead past,
Nor holding back in fear from
What the future veils,
But traveling on—knowing strength
Will be given
To better do the work in coming days.

Three years ago I came before this same group with the outline for a nutrition program in Child Health Education, and for a general program of health habit training. These programs have received the most cordial support everywhere. I am most happy to thank every health officer in the State for your co-operation. You and my chief in the North Carolina Tuberculosis Association have been a helpful guide and a friendly critic. The policies have not always been worked out as planned. Now and then there has been an honest difference of opinion about procedures but the results have been far better than were hoped for in the beginning. There is still great need for a continuance of this program for its more intelligent interpretation and for its sounder footing. This program will go on until it is a definite part of every school system and health department in North Carolina.

The following report of the seriously undernourished children in North Carolina is interesting.

There is a gratifying decrease in the percentage of children ten per cent or more underweight in North Carolina, as the following figures show. There is yet vast room for improvement.

<table>
<thead>
<tr>
<th>Grade</th>
<th>First Weighing</th>
<th>Last Weighing</th>
<th>First Weighing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>1926</td>
<td>1927</td>
<td>1927</td>
</tr>
<tr>
<td>2nd</td>
<td>19%</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>3rd</td>
<td>21</td>
<td>11</td>
<td>18</td>
</tr>
</tbody>
</table>

It is interesting to note that the percentages of underweight went up during the summer vacation. Is it more healthful to be in school than out?

What are the next steps in our Child Health Education program? There are four:

1. Definite courses in personal hygiene and methods of health education.
2. Courses in Parental Education in child health.
3. An intensive pre-school program.
4. Provision for definite instruction and care of the children who were positive reactors in the children’s tuberculosis clinics.

**HYGIENE AND METHOD OF COURSES FOR TEACHERS**

A teacher cannot teach that which she herself does not know; neither can she give instruction on as high a level as her own knowledge. Educators concede that a teacher can impart instruction only to the extent of about 70 per cent of that which she herself knows. Some of the teachers in the State receive the most meager instruction in personal hygiene. How can they then be expected to teach it to their pupils or to train them in good health habit formation? North Carolina College for Women and Eastern Carolina Teachers College offer excellent courses in personal hygiene and methods of health education. Duke University, Wake Forest and Davidson offer fine courses in personal hygiene during the college year. It is our dream which looks as if it might be realized, that every teacher training school and college in North Carolina will offer these courses when the school year opens this fall.
COURSES IN PARENTAL EDUCATION

There are few parents but are most anxious to do anything and everything within their power to help their children to be the best they can be with the endowment they possess. But often times they do not know, consequently it is the precious privilege of the physician, the nurse, or the health worker to educate them. It is gratifying to note the interest in parental education that has been aroused the past year. But this interest shall be more than a passing fancy, a transient something if worth while results are to be obtained and if far-off goals are to be made.

The North Carolina Tuberculosis Association is planning to co-operate in parental education through the distribution of literature, bulletins and by giving talks on the subject wherever we are invited to come.

AN INTENSIVE PRESCHOOL PROGRAM

Last year in North Carolina, in some counties, approximately 50 per cent of the first grade pupils failed. This means that the State is called upon to finance at least an extra year's instruction for thousands and thousands of girls and boys who under favorable conditions need not have failed. Of course all of these failures were not due to diseases that might have been cured, defects that could have been corrected or to habits that should have been changed.

An intelligent intensive pre-school campaign which includes definite follow-up work will leave its imprint in healthier children free to gain and to carry on happily the work outlined for them to do.

The preschool program includes examination, correction, vaccination, immunization and inoculation when needed. If diseased tonsils are removed before the child enters school he is given his chance to enter in finer condition than he possibly could when hampered by this handicap. If visual corrections are made when needed, he does not have the heartache of failure due to not being able to see. If his teeth are taken care of he has another chance to become healthier or to remain healthy. So on through the list of vaccination and immunization each contributes its quota of reward toward a finer sense of being.

PROVISION FOR DEFINITE INSTRUCTION AND CARE OF THE CHILDREN WHO WERE POSITIVE REACTORS IN THE TUBERCULOSIS CLINICS

The tuberculosis clinics for children have accomplished an almost immeasurable amount of good. Tuberculosis has been checked in its beginning stages; good health habits have been found that give their need of protection; health quotients in some instances have been raised to a far
higher level than they possibly could have been otherwise. There is yet a stupendous amount of work to be done in education along this line. Here and there are parents who refuse to face the fact that their son or daughter has an active demonstrable case of tuberculosis demanding immediate attention. Once in a while a doctor will not accept the proof offered by X-ray photographs read by an expert in tuberculosis.

In the meantime the child is the one who suffers; it is he whose life may go so close to the borderland that tired of trying to go the way alone, he quietly enters the silence and comes not back. Our program the coming year for tuberculous children is planned to disseminate knowledge where knowledge is needed and to give help where help is asked.

The North Carolina Tuberculosis Association is happy to do anything and every-
thing it can to help our State to march forward in child health education. We know all the inspiration and help the North Carolina Public Health Association has been in the past. We are just as confident that the forward steps will be taken just as gladly and just as effectively.

I want to close with some verses written over two thousand years ago.

With Reverence at thine own Tribunal stand
And answer justly to thine own Demand
Where have I been? In what have I transgressed?
What Good or Ill had this Day's Life expressed?
If Good, the Good with Peace of mind Repay
And to thy secret Self with Pleasure Say:
Rejoice, My Heart, for all is well today!

—Pythagoras, Golden Verses

COMMON FALLACIES IN THE FEEDING OF SCHOOL-AGE CHILDREN

Despite Continued Propaganda for Average Standard Tables, It Has Been Found That the Formula Must Fit the Child and Not the Child the Formula

By CLIFFORD G. GRULEE, A.M., M.D., LL.D., Clinical Professor and Head of Department of Pediatrics, Rush Medical College, University of Chicago.

For the past ten years there has been very strong propaganda in this country directed towards the proper care and nutrition of infants and children. Standards for the weight-height according to age have been prepared as guides from statistics obtained from measurements of large groups of children. Instead of these tables being interpreted as guides by the laity and often by the profession, they have been regarded as absolute standards, variation from which constituted abnormality. Such is far from being true. There is still something in inheritance, and physical as well as mental characteristics cannot be made to order by any system or systems. Much can be done to detract or improve, but the basic elements of growth, both physical and mental, come into the world with the child. This intensive interest in the nutrition of children has brought about an attitude of mind on the part of the laity that demands general rules for special cases.

INDIVIDUALIZATION

Fortunately, the solution of this problem was largely found in the infant by the individualization to which the children were subjected by private physicians and by welfare societies. Early experience proved in this instance that the wholesale treatment of infants was not conducive to even good results. It was found, in other words, that the formula must fit the child and not the child the formula. Because of the greater tolerance for a wider variety of food and a greater resistance to environment, the evidence of individual need is not so great in the older child. The principle, however, is just as true here as it is in the baby though the results obtained by standardization are much better.
Advance in science is usually attended with certain restrictions or complications. The attempt of the laity to have their children conform to standards has been sadly hampered by a state of mind that is quite deplorable and is frequently the chief cause for the defeat of the purpose that has actuated it. Among the more intelligent groups in our communities we find this condition widespread, and it, more than anything else, has led to the development of psychiatric research among children. The thin, nervous, irritable, appetiteless child is, in the majority of instances, the product of a home ruled by the effort to make that child conform to some artificial standard. Many of these children would have been far better off had their parents never heard of diets or standards. This, of course, does not mean that diets and standards of themselves are wrong. Quite the opposite. But it does mean that common sense is a requisite for successful rearing of children, just as it is for success in any line of endeavor.

It is unfortunate that the health movement in this country has frequently gotten out of the hands of the conservative medical element and has been in the hands of those whose training, both from a scientific and human standpoint, has not been such as to give to them proper judgment in such matters, no matter how altruistic and pure have been their motives. Various commercial groups have not been slow to take up such propaganda and promote it to their own advantage.

**USE MILK WISELY**

There is, perhaps, no food more essential for the proper nutrition of the child than milk, but like all good things it can be overdone. There has long been a dictum that every child should receive a quart of milk a day, and mothers have felt that the more milk they could give their children the better they would be nourished. It seems to me very unlikely that many children require more than a pint and a half of milk in twenty-four hours. We must remember that milk is a very complete food and that while it is liquid it also has a heavy food value. Too much milk has a tendency to satisfy the appetite with the result that the child refuses many of the essential foods that it should have, and confines itself almost entirely to a diet of milk. There are few foods that are more conducive to the production of constipation than is milk, and contrary to the popular ideas on the subject it is the fat content, the cream, which is the element that brings this about.

**OTHER MILK PRODUCTS**

Not only milk as such, but products are likely to be given in too large quantities. Ice cream as an occasional food is excellent. When given too frequently and between meals it is very likely to harm rather than aid nutrition. I cannot but feel that the indiscriminate use of milk as a mid-morning or mid-afternoon food is a source of real danger to the appetite and therefore to the nutrition. That some children may be benefited by such a measure is probably true. It is conceivable that a small proportion of children, especially in our large cities, go to school hungry, and that milk given at such times is truly a life saver, but to the ordinary child coming from the usual home in this country the measure to say at least is ridiculous. If it were only ridiculous it could be passed by in silence, but it is distinctly harmful.

Any such concentrated food takes away the child's appetite for the succeeding meal, and if he be a nervous child and introspective often calls his attention to himself in such a way as to make him feel that it is necessary for him to take special measures to meet his bodily requirements. Such is far from being the case. We see therefore that in the simple measure of giving milk between meals generalization results in harm, while individualization is frequently of the greatest benefit.

Eggs have formed a very prominent source of food as long as history records, and it is natural that we should think of them as one of the chief articles of diet for children. Eggs constitute a very concentrated and very nutritious food. While they lack in carbohydrates, they have in the yolk a large quantity of fat soluble vitamin and hence offer a distinct addition to the diet. To a certain extent the matter of milk and eggs in the diet is interdependent and reciprocal. If one advises a diet containing a large quantity of milk, then certainly eggs should form a subordinate part. Some times concentration of food is a distinct disadvantage, but there is another disadvantage, not commonly known to the laity, possessed by eggs probably to a greater degree than by any other food; that is the tendency of individuals to develop specific protein reactions to the egg
white. These reactions manifest themselves in various ways, such as urticaria, asthma, and so forth, and are often rather dangerous in young children. With much of milk and eggs in the diet the child's appetite is so satisfied that its taste for vegetables and other foods is reduced, and consequently there develops a marked tendency to a one-sided, very concentrated diet, which frequently leads to constipation.

It seems to me that taking everything into consideration we should be careful to keep the number of eggs in the diet down. Not because eggs in themselves are not an excellent food, but because milk is probably a better one, and the two are so similar that a one-sided diet develops. For younger children, that is, between eighteen months and two years, I rarely advise more than two eggs a week, and certainly an egg a day more than covers the need for the older child. Most often in this country this is given at breakfast time, though it would seem more rational when giving milk for the morning meal to give the egg either at noon or in the evening.

**Bacon Should Be Avoided**

Of all the foods given generally to children there is none, I think, that has so little to be said in its favor as bacon. Every other form of pork is taboo and yet bacon forms an article of diet on almost every breakfast table in the land. One of the first foods that a mother wants to give her baby is bacon, and yet she would be horrified if you advised her to give the child portions of a pork chop. There is no reason for giving bacon. It brings to the food no element of special value, it is a concentrated food, and contains practically no vitamins. Custom alone has determined its use, and in this instance custom would not seem to be based on reason. It will be a long time before bacon will be taken off the breakfast table, but it is well to know that it is not an essential food and can be dispensed with without lowering the value of the diet in any way.

What part have sweets in the diet of the school child? There is no question of his craving for them, and this lasts through all the growing years. Carbohydrates offer a type of food that is most easily turned into energy, whether this be physical or growth energy. It is, therefore, natural that at this period when life is so active sugar should constitute a very essential portion of the diet. The dangers from carbohydrates are two: First, that they be given between meals and destroy the appetite; and, second, that they be given in such large quantities as to reduce the quantity of protein and fat in the diet below the essentials for this period. It must always be remembered that growth is accomplished by the deposit of nitrogenous material, and that such nitrogenous material come only from the proteins in the food. Sugars and other carbohydrates in the form of candy, cake, fruits, cereals, and so forth are, therefore, good for children if taken in proper amounts and at the proper time.

**Error in Environment**

After everything has been said about diet it is altogether likely that in this country at least a majority of children get a good, wholesome, nutritious diet, and that the cause of malnutrition if it rests on a dietetic basis at all is due, not to the type of food nor the quantity offered the child, but rather to some failure on his part to accept what is offered him. In other words, the error lies not in the diet but in the environment. This error is due in large part to an excess of knowledge and a minimum of judgment on the part of the parents, and this in turn has come because of a few dogmatists have laid down hard and fast rules to govern diet for children, and hard and fast standards by which to judge these results. The over-anxious mother tries to make her child fit into the scheme thus devised and in this attempt lays so much stress upon food and eating that in many instances she develops in the child an aversion to both. This goes on to the development of an ego that is satisfied only by the attention it attracts when food is refused. The ultimate result of such a regime is neurasthenia.

What is the solution of this problem? We must solve this as we have solved the problem for infants, with less of standardization and more of individualization. We must be certain first that the child has no physical defects that will disturb his nutrition. We must cater to his likes and dislikes to a large degree, but at the same time we must not be governed by them. We must regulate the atmosphere of the home in such a way that food and eating are simply natural phenomena in the day's
existence. We must take into consideration that there is something in inheritance, that some children are thin and others fat, not because of the diet but because of natural tendencies. In other words, the best results in the nutrition of children are to be obtained not by dogma but by enlightened judgment.—The Nation's Health.

SOMETHING DOING IN VIRGINIA

The following article is quoted from the August, 1928, issue of The Community League News, published at Richmond. Our friends across the border have adopted a special “Three year program.” Their slogan is “Virginia, The First State Sanitized.”

If any of our people have any doubts about their meaning business up there, it would be well for all such to read the description of their plans. And how about getting a little busier ourselves?

The League News editorial follows:

A GREAT STATE-WIDE HEALTH PROGRAM

Since the beginning of the work of the State Health Department under the direction of Dr. Ennion G. Williams, twenty years ago, thousands of lives have been saved and most remarkable progress has been made in bringing about better health conditions throughout the State. One constructive program has followed another. Now the Health Department proposes another most remarkable challenge to the people of the State. The slogan is no less than “Virginia, the First State Sanitized.” Virginia has led in many constructive programs in the past. Why should she not lead again in this great effort to be the first State in the United States to be able to show all the homes and public buildings sanitized?

It is a great program and a great challenge. Its success, however, will depend upon each individual in the community and especially upon the householders of the State. In other words, the person who is reading this article must be one of the number who will be willing to help achieve this great result.

WHAT THE LEAGUES CAN DO

We are appealing to every Community and Junior League in the State to give wholehearted support to this program which is to extend over the next three years. The leagues should assign the definite task to the Health Committee. Under the leadership of this Health Committee every home in the community should be requested to fill out one of the sanitation blanks. Every home that shows any lack in any point should then be compelled to do what is necessary to measure up 100 per cent to the conditions. The committee should not expect to do its work in a day or a few weeks but it should expect to secure constructive results every week until the final goal is attained.

The League through the Health Committee should get in touch with the officers of the County Federation of Leagues and through these officers seek to enlist the support of every other league in the county.

The League can do much by enlisting the support of the local and county news-
papers, by interesting ministers, leaders of various lodges and leaders of every organization in the community.

The Health Committee should first of all tabulate the record when the sanitation sheets are returned from the homes. Then it should plan wisely and judiciously its program of improvement and continue working out its program until every home meets the conditions. This work cannot be done in a hit and miss sort of way. It will have to be done with very great care and directed by very great wisdom.

The Co-operative Education has always had the most cordial and enthusiastic cooperation of all the health forces of the State. Our leagues have done more health work than any other type of improvement work excepting the school work proper. Now is the time for all our local forces and all the health forces of the State to unite as never before and think and plan and work for success.

We wish to appeal to the person who reads this article to see that this work is taken up by your league at once. Write to the Health Department and get full particulars, though you will find most of the details with reference to the program right in this issue of the paper.

**VALUABLE PRIZES**

The State Health Department is offering three prizes, one of $500.00, one of $300.00 and one of $200.00 to the county reporting the highest percentage of homes sanitized from June 1, 1928, to June 1, 1931. Why should not the leagues in your county win one of these prizes.

**GET IN TOUCH WITH YOUR HEALTH WORKERS**

If you have a county sanitary officer, a public health nurse, a county physician, the Health Committee should get in touch with these leaders at once and have at least one of them come before your league meeting and discuss this matter. The leagues should place this under the leadership of these workers.

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**CHEMISTRY**

Reports of Some of the Discussions Heard at the Last Meeting of the American Chemical Society by Drs. Edwin E. Sleson and Watson Davis and Published in Science News-Letter

**PURE AIR**

"A call for a crusade for pure air following the fight for pure food and the fight for pure water was the main message of the presidential address of Prof. Samuel W. Parr. Over eighty per cent of the fuels now in use are smoke producing. This is not merely a waste of combustible material but increases laundry bills, injures merchandise and impairs health by filtering out the ultraviolet rays of the sunshine with a smoke screen and by corroding the lungs with sulphur fumes. The domestic chimney is a worse offender than the factory. The supply of anthracite is inadequate but smoke can be equally well eliminated by converting bituminous coal to gas and coke or to some semi-coke combustible, a field in which Professor Parr has conducted research at the University of Illinois for a quarter of a century.

"The expansion and increase of efficiency in the use of power," said Professor Parr, "is to be credited to the engineer whose strides can be readily noted in more scientific boiler settings, improved stokers, turbine engines, pulverized coal, superheaters, economizers and high boiler pressures. One might think that the engineer had about reached his limit, but more likely he has just made a good beginning providing he calls in the chemist for cooperation in the next chapter."

**PURE WATER**

"Pure water was credited with the redaction in the use of alcoholic liquors and the bringing about of prohibition in an address by Dr. William J. Mayo, the Rochester, Minn., surgeon, who spoke at the same session with Doctor Parr.

"Explaining that European peoples had taken to wine and beer not for love of alcohol but because of lack of safe water, Doctor Mayo declared:

"Simultaneously with Vienna's intro-
duction of a pure water supply from the mountains, her per capita consumption of spirits and fermented liquors was reduced spontaneously forty per cent. The introduction of a pure water supply in the various states in our country has been followed by a temperance movement, and finally by prohibition.

"The drink habit was one of the many forms of protection resorted to by nature to save man from filth diseases which cause death, or that which is worse than death, intellectual deterioration.

"Prohibition outlawry is largely from the alien who comes from countries where water could not be used for drinking purposes and also, of course, from the drags and froth of our own citizens."

**LACTIC ACID HISTORY**

"How the course of American history was changed by a complex chemical reaction was explained by Doctor Mayo. The resistance of the South was strengthened and the Civil War prolonged two years by the skill of Stonewall Jackson in replacing lactic acid by glucose in the muscles of his ragged barefoot men when he marched his troops with unexpected rapidity in the region across the Potomac from Washington in defense of Richmond. Violent exertion produces an accumulation of lactic acid in the muscles and so causes fatigue but this was relieved by General Jackson who ordered his men after marching several hours to lie flat on the ground and relax for a few minutes. Then their strength was restored by sugar and other carbohydrates from the sutler's wagons. With the clinkers thus out and their furnaces stoked with fresh food at intervals the Confederate soldiers could make forty miles a day and still be fit for fighting. This was before the days of nutritional physiology which nowadays gives us the reason for such practices and enables us to employ these principles in health and disease."

**FIGHTING TUBERCULOSIS**

"Co-operation of the biologist and chemist in research upon the fundamental nature of tuberculosis was declared by Dr. William Charles White, of the United States Public Health Service, to offer hope for new progress in combatting this and allied diseases. Large batches of germs, some of them containing thirteen trillion tubercule bacilli, have been subjected to accurate chemical analysis. Ten substances, each

with definite effects upon the animal body, have been isolated from these germs. More than twenty organizations and laboratories are co-operating in the research. One part of the germ, the phosphatide fraction, was found to make cells grow rapidly and wildly as if they were a cancer. Leprosy, whose causative germ can not be distinguished microscopically from that of tuberculosis, is also being studied."

**ARTICHOKE**

"A rival of the Irish potato, which will also compete in sugar production with the sugar beet and the sugar cane, was introduced to the chemists by Dr. Frederick Bates, sugar chemist of the U. S. Bureau of Standards, Washington. It is the Jerusalem artichoke long used in Europe for cattle feed, but in this country usually classed with the turnips in the minds of housewives. From these artichokes the manufacturer can obtain large quantities of an uncommon sugar, levulose, which is fifty per cent sweeter than cane or beet sugar. Since the artichokes can be grown with little hand labor and can be stored easily they promise to supplement or even replace beets as the raw material for sugar factories in the beet belts. Although experimental work has shown that high yields of levulose can be obtained from the artichoke, a continuous commercial process of sugar extraction has not yet been perfected. A factory plant on a small-scale is now being installed at Washington to solve this problem.

"This is the second new sugar industry that Doctor Bates has helped establish through fundamental research work. Six years ago he showed corn products manufacturers how to make dextrose, corn sugar or pure glucose from corn, and now 150,000 tons a year are produced.

"While studying the artichoke as a sugar-producing tuber, it was discovered that artichoke flakes or chips, flour, paste and other products can be made to compete with similar foods from potato, wheat, etc. It is claimed that diabetics can eat levulose sugar and products with little harm to their condition, although the ordinary sugars and starches are dangerous."

--- *Science News-Letter.*

Son—"Can you sign your name with your eyes shut, daddy?"
Father—"Certainly!"
Son—"Well, shut your eyes and sign my school report."—Ex.
Protect your child—
with at least three doses of
-Toxin-Antitoxin-
North Carolina is generous in developing its material resources; farsighted in its perfection of its educational system, good roads system and all things looking to the development of the State. Smoky Mountain is, for example, a beautiful acquisition, but does it touch the beauty of these three children? What is the State worth without children such as these? Let's make an environment for them that will protect them from infectious and contagious diseases.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may interested.

Adenoids and Tonsils
Cancer
Catarrh
Care of the Baby
Constipation
Colds
Clean-up Placards
Chickenpox
Diphtheria
Don’t Spit Placards
Eyes
Flies

Fly Placards
German Measles
Hookworm Disease
Infantile Paralysis
Indigestion
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Malaria
Measles
Pellagra
Public Health Laws
Prenatal Care
Sanitary Privies
Scarlet Fever
Smallpox
Teeth
Tuberculosis
Tuberculous Placards
Typhoid Fever
Typhoid Placards
Veneral Diseases
Water Supplies
Whooping Cough

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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In this issue of The Bulletin, we are eliminating most of the usual editorial matter in order to utilize the space thus saved for the publication of several very interesting special articles. Strictly speaking, this issue is somewhat of a continuation of our September number in that it is intended for a special appeal to our friends among the parent and teacher class of our readers. The special articles should not only be read, but should be carefully filed for further reference in class rooms, parent-teacher conferences, and club meetings.

The article by Mr. R. B. Wilson, entitled "Health—The State's Greatest Asset," is an exhaustive exposition of the present status of public health work in this State, as well as a description of the machinery utilized through the State Board of Health in executing the will of the people in order to protect the health of the citizens of this commonwealth. Mr. Wilson is assistant to the State Health Officer and is, therefore, familiar with all phases of administrative health work. His article describes briefly and concisely the activities and responsibilities of each of the separate divisions which go to make up the composite entity known simply as "The State Board of Health." Teachers of classes in civics will find his article an excellent aid in imparting correct information to their pupils on subjects concerning State health work.

Dr. C. N. Sisk, member of the Executive Staff of the State Board of Health and head of the Division of Co-operative County Health Work, arranged recently for two meetings, one in the east and the other in the west, of all the co-operative county health officers. These meetings were held early in September and the identical program prepared by Doctor Sisk was discussed at each of the meetings. Practically every co-operating health officer in the State was present at one or the other of these meetings. The program consisted of four papers at each meeting, making a total of eight papers on the four subjects covered in the program, the whole symposium being on the subject of school health work.

All of the papers were carefully prepared and we are pleased to publish three of them this issue. The others will follow in full or in the form of abstracts in subsequent issues of the Bulletin. We might say that these articles represent an excellent description of the methods used by the writers in their respective counties in carrying on school health work, in addition to setting forth their separate views and opinions. The series in this issue include two papers on the subject of the "Pre-School Work of the Health Department," one written by Dr. A. C. Bulla, health officer of Raleigh and Wake County, and the other by Dr. J. R. Hesse, health officer of Forsyth County. Both of the writers have had abundant experience and are authorities on their subject. The third article referred to, on the subject of "Physical Examination of School Children," was written by Dr. J. E. Smith, health officer of Bertie County. Doctor Smith's description of his methods followed in a rural county is very interesting and should be suggestive to many other sections of the State.

The article on "Tuberculosis in Infancy and Childhood" was prepared exclusively for publication in the Health Bulletin by Dr. S. E. Lee, clinic physician of the State Sanatorium. Doctor Lee is a competent expert in this field of work and his article is timely and important. It bears the stamp of authority. It should be read and carefully filed for reference by the
head of every family; and it should certainly be in every school library.

Finally the article about the three or four more common and prevalent skin diseases, which cause so much trouble to both parents and teachers, by Dr. J. A. Elliott, a specialist of Charlotte, should be helpful to teachers as well as parents.

EFFICIENCY HINDERED BY ALCOHOL AND TOBACCO

In the report of a special interview with Mussolini published by Viscount Rothermere in the *Daily Mail*, his high standard of efficiency is attributed to his strict self-control and economy of time. He takes no part whatever in social life. He sleeps eight hours a night. For ten years he has not taken a drop of alcohol and he does not smoke. Alcohol and tobacco he regards as entirely unsuitable for people who have hard mental work to do. "This opinion of his," says Viscount Rothermere, "confirms my own experience and practice, for out of regard for the heavy responsibilities resting upon me I have been for some time past a teetotaler and non-smoker."

—Good Health.

Note how carefully the photographer concealed the vaccination scar on the left arm of this beautiful little girl from Southern Wake.

HEALTH—THE STATE'S GREATEST ASSET

BY RONALD B. WILSON

North Carolina rejoices today in the lowest death rate since the pioneer days of its first settlement. For the past year of 1927 a new low record was achieved, 11.3 per thousand of the population. This was under the rate for the United States' registration area which now includes approximately 85 per cent of the population of the country. Again, it is demonstrated that North Carolina is not only a healthful State in which to live, but that it is in fact one of the most healthful of all the States in the Union.

This has not always been true. Not so many years ago the State was hampered and its material progress checked by the prevalence of hookworm disease and malaria. Smallpox was an ever-present menace, scarring and killing. The "Great White Plague" of tuberculosis each year claimed its thousands of victims. Typhoid fever was a constant summer scourge, killing and maiming. One out of every five of the babies born in the State died before reaching a first birthday.

This condition was due to a number of causes. On account of its geographical location, the State was especially susceptible to semi-tropical diseases, hookworm and malaria. Because of its predominant rural population, typhoid fever and other fecal-borne diseases, particularly the diarrheal diseases of infants, largely affected the public health. Unprotected public water supplies and general insanitary conditions throughout the State contributed to the high death rate.

Today the picture is entirely changed. North Carolinians are a well and happy people, vigorous and able whether at work or play. Co-incident with the tremendous development during the years of the present century in agriculture and industries has been an improvement in general health conditions even more remarkable.

Today it is true that no great number
of our people are anaemic and weak from the effects of hookworm disease. That affliction is becoming rare in the State. Chills and fever and the sallow complexion of those chronically malarious now is so uncommon as to evoke comment, for malaria has been practically eradicated except from certain coastal sections as yet undeveloped or only partially developed agriculturally. Smallpox now kills less in a year than that comparatively new hazard to life, the automobile, kills in a week. The annual death toll from tuberculosis has been cut more than half. Through sanitation and vaccination typhoid fever has been removed as a major factor affecting the public health. Simultaneously the infant death rate, following increased knowledge of sanitary living and the protection of public water and milk supplies, has been reduced more than one-half so that now instead of one out of each five of the babies born in the State dying during the first twelve months of life the ratio is one out of each thirteen.

The vital statistics records for the State as compared with those of the Nation shows that North Carolina has made a markedly greater degree of improvement in the health of its people since 1900 than has its neighboring states, or the country as a whole. In 1900 the death rate for the entire registration area of the United States was 17.6 per thousand of the population. At that time North Carolina had no accurate records, but from the most accurate data obtainable it is estimated that the death rate for the State was approximately 22.0 per thousand of the population. This extremely high death rate has been steadily pulled downward until last year it was 11.3 per thousand for the population as compared with 11.4 for the country as a whole. While the death rate for the Nation was falling 35 per cent, that of North Carolina dropped practically fifty per cent.

This remarkable reduction in the death rate is the more noteworthy when considered in connection with the high birth rate. Last year there were 83,334 births in the State, a rate of 28.8 per thousand of the population. For the eighth consecutive year the State has maintained the highest birth rate in the United States. This means an addition annually to the population of a large group which is most susceptible to a number of fatal diseases. Tuberculosis, which holds a place throughout the world as one of the major causes of death, in 1927 claimed more than three thousand less victims in this State than in 1910, just seventeen years previous. The total number of deaths from this cause last year was 2,769, giving the State a rate of 9.8 per hundred thousand of the population. This rate is considerably under that for the country as a whole and is lower than any other Southern State. This enviable record was made despite the fact that nearly five hundred deaths from tuberculosis were of non-residents of the State. patients at government or private sanatoria maintained in North Carolina because of its excellent climatic advantages.

Sustaining the vital statistics records are the findings of the United States government in connection with medical examinations made of men called for military duty under the Selective Service Act. Figures are now available on the basis of more than two and one-half million men examined, of which number fifty thousand men were from North Carolina. This study gives a cross-section of the physical condition of the male population at an age when physical defects that may shorten life are beginning to appear, and may be taken as a good picture of the general physical condition of the people.

These statistics show that North Carolina averaged fewer rejections because of physical unfitness than the country as a whole, and on individual points ranked well above the average. As compared with the entire country there were in this State fewer defects per thousand, fewer defective men per thousand, fewer mechanical defects, less hernia, less underweight, fewer defects of the eyes, ears, throat, less organic heart disease, and less defective and deficient teeth.

This State is today perhaps the best sanitzed State in the Union, considering its predominant rural population. For ten years it has had State laws requiring the sanitary disposal of human excreta. In this North Carolina was a pioneer, being the only State with such beneficial laws until in 1927 the legislature of Alabama gave that State legislation based upon that of North Carolina. Practically the entire urban population is now served with protected public water supplies and with water sewerage. The semi-urban and village and a large portion of the rural population is protected by a system of sanitary privies which are required to be construct-
ed and maintained sanitarily in accordance with plans and specifications approved by the State Board of Health.

Three factors have been primarily responsible for the changed health condition of our people, a change that in twenty-five years has brought the State from near the bottom to a point close to the top. First of all the State has been tremendously fortunate in having an alert and intelligent medical leadership, and with this has been a heartily co-operative profession. Such men as Wood, Lewis, Way, Rankin, have achieved national and international reputations for their leadership in preventive medicine, and their labors for their fellowmen have been of inestimable value. Second, the newspapers of the State, day by day, week by week, have carried on an educational program for sanitation and hygienic living. Third, the General Assembly has consistently enacted needed legislation for the protection of the public health and biennially has provided adequate appropriations for the maintenance and development of public health measures.

A natural sequence of the combination of these three factors has been the increasing realization of our people that health, like charity, begins at home. In Guilford County on June 1, 1911, was established the first county health department to be organized in the United States. Today North Carolina has 39 county health departments and six city health departments, serving more than one-half of the State's population. In this phase of development North Carolina has been exceeded only by the State of Ohio.

For the protection and promotion of the public health the annual appropriation by the General Assembly is $441,400.00, exclusive of appropriations made for maintenance and permanent improvements at the State Sanatorium for the treatment of tuberculosis. This puts North Carolina in sixth place in the group of forty-eight States of the Union, the ranking States being Pennsylvania, New York, Illinois, Ohio, Massachusetts, North Carolina. The appropriations made by the counties and cities approximate $600,000.00 annually.

This investment of money for the purpose of protecting and promoting the public health is probably the best paying one in direct dividends that is made by the State. The fact that the death rate in the past twenty-five years has been cut in half means a saving not only in lives, but in dollars and cents—a sum one hundred times greater than the amount which has been invested to achieve this result.

In addition to the local county and city health departments, the State is served by a health department under the direction of a State Health Officer who devotes his time and energy to this one job. Divisions of this department, each under the direction of a trained expert, consist of a hygienic laboratory, vital statistics, epidemiology, county health work, medical inspection of schools, sanitary engineering and inspection, maternity and infancy, health education, and life extension.

The work of the State Board of Health may be briefly summarized by divisions as follows:

1. The State Laboratory of Hygiene annually makes 60,000 examinations to assist the physicians of the State in the diagnosis and treatment of their patients; periodically examines samples from all public water supplies; distributes 750,000 doses of typhoid vaccine for the prevention of typhoid fever; distributes 35,000 doses of pertussis vaccine for the prevention and treatment of whooping cough; manufactures and distributes 225,000 doses of smallpox vaccine for the prevention of smallpox; distributes 210,000 doses of toxin-antitoxin for the prevention of diphtheria and 1,500,000 units of antitoxin for the treatment of diphtheria; makes and distributes 1,800 Pasteur anti-rabic treatments, for the prevention of hydrophobia caused by the bites of mad dogs; distributes 5,000 packages of tetanus antitoxin for the prevention of this dread disease; distributes 125,000 ampules of neo-arsphenamine for the treatment of syphilis; altogether, in water analysis, diagnostic examinations, and in sera and vaccines supplied, the laboratory performs a public service that at ordinary commercial rates would exceed $1,250,000.00 annually.

2. The Division of Vital Statistics is charged with the vital bookkeeping of the State, an accounting in terms of life and death of the State's population. Its objective is to secure a permanent record of the more important facts concerning the birth and death of every citizen of the State, and from such records to prepare card indices and tabular classifications in such manner as to make readily available on inquiry the following information:

(a) The total number of births occurring annually in the State; (b) the birth
rate of the State, that is, the number of births per thousand of the population; (c) the birth rates by races, white and colored; (d) the number of illegitimate births; (e) the number of still-births attended by midwives; (f) the number of white births attended by physicians; (g) the number of white births attended by midwives; (h) the number of colored births attended by physicians; (i) the number of colored births attended by midwives; (j) all of the foregoing data as to births with respect to each county and city. These facts permit of comparisons of one part of the state with another, of the birth rate of the two races, and of the birth rate of this State with that of the other States and other countries. Such information is necessary in forming conclusions as to vital conditions in North Carolina and in the enactment of suitable legislation for dealing with these conditions. Last year there were 83,334 live births in the State, certificates for which were handled and classified.

(a) The number of deaths occurring in the State annually; (b) the death rate, that is, the number of deaths per thousand of the population; (c) the number of deaths, by races, and the death rates by races; (d) the number of deaths among infants and young children as compared with the births, and the total deaths as compared with the total births, with net gain in population; (e) the total number of deaths by months and year from each of the 209 causes appearing in the International List of Causes of Death; (f) the number of deaths according to age and occupation; (g) the number of deaths according to age and the cause of death; (h) the number of "seasonal" deaths according to months; (i) all of the foregoing data classified according to county, town and city. This information is absolutely necessary to understand vital conditions in the State; to know where intensive health work is needed, against what causes of death health measures should be directed, and whether the work of local health departments is associated with a decrease or no decrease in death rates. Last year 32,764 deaths occurred in the State, certificates for which were handled and classified.

(3) Through its division of Epidemiology, the Board endeavors to control the spread of contagious and infectious diseases. It supervises the quarantine of approximately 50,000 such cases each year, supplying to each home where any of the contagious or infectious diseases occur directions for the care of the sick and other precautions necessary to prevent the spread of the disease; makes epidemiological investigations to ascertain the source of infection in such diseases as typhoid fever, diphtheria, etc., when such diseases appear.
The division of Life Extension was organized in January, 1928. This division was organized to meet a pressing public need, the action by the Board following resolutions by the President and Councilors of the State Medical Society urging the necessity of the work being undertaken. A study of the vital records of the State disclosed that whereas the death rate from the group of communicable diseases declined from 117.6 in 1917 to 35.4 in 1926, the death rate from degenerative diseases in the same ten year period rose from 318.9 to 374.9. The total deaths from the degenerative group in 1926 was 8,105, a fourth of all the deaths occurring in the State. Included in this group are heart disease, Bright's disease, and cancer, all of which particularly affect the citizenship in the age group of 40-60. The only way to combat the alarming increase in the deaths from these degenerative causes is to get those citizens affected under competent medical care before the disease has reached an acute stage. To detect these in their incipient and curable stage, it is necessary that thorough physical examinations be made periodically. The Life Extension division was organized and is functioning with two objectives: (1) to acquaint those physicians residing in the rural sections of the State, and practicing without the aid of hospitals and laboratories, with the technique of making physical examinations of the apparently well; (2) to assist the medical profession in impressing upon the citizenship of the State the fact that through competent physical examinations these degenerative diseases may be discovered in their incipiency and alleviated or cured.

Particularly affecting the coastal counties of the east have been two important undertakings, the field studies in malaria control measures and the survey of salt marsh mosquito infestation. While primarily both of these problems are local, in that they are confined to a compartively limited area of the State, yet they materially affect the public health of the State as a whole and are an important factor in the agricultural and industrial development of the State.

In 1925 the State Board of Health was able to interest the Rockefeller Foundation in malaria control measures to the extent that this Foundation established at Edenton a station for the intensive and thorough study and investigation of malaria control measures. The station is under the direction of Dr. Mark F. Boyd who is assisted by a staff of trained assistants. The study is still in progress and probably will not be concluded for several years yet. From this North Carolina will secure accurate data upon which it may with confidence go forward towards the goal of complete eradication of malaria from the State.

Second only to the malaria problem in the coastal section is that of the salt marsh mosquito infestation. There are fourteen counties affected, containing approximately 300,000 acres of salt marsh territory, this acreage being distributed as follows: Brunswick 17,000, New Hanover 8,500, Pender 6,500, Onslow 13,000, Carteret 80,000, Camden 8,000, Pasquotank 2,000, Perquimans 2,500, Chowan 9,800, Washington 14,600, Tyrrell 40,500, Hyde 25,500, Dare 53,000, Currituck 12,400.

For the purpose of making a survey of the salt marsh areas of the South Atlantic and Gulf States, the Congress of the United States in 1926 appropriated the sum of $25,000 and the additional sum of $10,000 to continue the survey through the fiscal year ending June 30, 1928. Under the auspices of the United States Public Health Service, with Dr. T. H. D. Griffiths in charge, the survey was undertaken. Included in the survey was the investigation of various types of mosquito breeding areas in the salt marshes along the coast from Virginia to Key West, and from Key West to the Mexican border. This survey has already gathered incalculably useful data with reference to the egg-laying and larval habits of solitans mosquitoes; conditions which influence their breeding; distance and direction of their flights; and the influence upon them of tides, vegetation, soils, salinity, natural enemies, climatological conditions and so on. In addition to this, extensive studies of the habits of these pests have been going on at Biloxi, Mississippi, Fort Pierce and Vero Beach, Florida, and Wilmington, North Carolina. The survey at Wilmington covered approximately all of the im-
important breeding areas in New Hanover County; and in adjacent territories in Brunswick and Pender counties. Information from this survey was of such valuable nature that it has put New Hanover County in position largely to decrease the mosquito infestation there.

The necessary appropriation to continue this important work was left out of the regular appropriation bill introduced into the recent session of Congress. So necessary did its continuation appear that the State Health Officer, the Governor and a number of interested citizens urged upon the State's delegation in Congress that this appropriation item be restored. Largely due to the earnest and persistent efforts of Hon. Charles L. Abernethy, ably assisted by Hon. Lindsay Warren and other members of the delegation, an appropriation of $10,000 was secured. As a result practically the entire remaining salt marsh

area in North Carolina will be included in the survey, and the work upon this is now in progress. From it ways and means to control and prevent the breeding of solicmans mosquitoes, it is hoped will be developed.

North Carolina moves forward, no longer a laggard handicapped by disease and poverty. An intelligent leadership has envisioned the fact that agricultural and industrial advancement depend upon a healthy citizenship, and through the General Assembly has provided the necessary funds for the protection and promotion of the public health. A medical leadership alert to the opportunity presented has carried on, under the direction of the State Board of Health, a continuously winning fight. Today North Carolina is one of the wonder States of the Union—progressive, prosperous, healthful.

PRE-SCHOOL WORK OF THE DEPARTMENT

BY

A. C. BULLA, M.D., County Health Officer, Raleigh

The subject assigned me is one which up to the present time has not received the emphasis it deserves by national, state, and local health departments and public health workers. It is a comparatively new subject in the field of public health. Why it has been neglected for so long a time, important as it is, has not been satisfactorily explained by public health leaders and well organized state and national departments of public health.

The history of the human race is punctuated by many state and national events. In this brief discussion may I call your attention to the few generations just back of us, and measure them by spacing some of the events of state and national importance? It will be possible to refer only to just a few, but they will be familiar to us all.

It has been just a little less than three hundred and fifty years since the first white American child was born on Roanoke Island, this State. About one hundred and eighty-five years following this state and national event, which is publically celebrated each year, the people, deprived of many privileges, had grown to feel that they were entitled to representation in government and should enjoy a greater degree of freedom than they were then enjoying under the British form of government. They asked to be made a free and independent nation. Their request was refused, but courage and determination forced the issue and the Revolutionary War was fought; freedom was secured through it at a great and terrific cost to the then sparsely settled thirteen original states.

Eli Whitney invented the cotton gin in 1793. Sir Isaac Newton, during the same century; on one occasion was being congratulated by a royal friend on his great discovery. He said that when he compared what he had done to what was to be done he felt like a boy playing with pebbles on the sea shore while the great ocean of truth spread out before him boundless and undiscovered.

In 1830 Stevenson invented the steam engine and during the same year made his first successful run from Baltimore to Washington. At that time, he announced to the world that it would be impossible for a person to travel faster than thirty
miles per hour; that such terrific speed would cause one to die from suffocation.

From 1861 to 1865, the North and the South, the blue and the gray, waged a bitter and bloody war to further cement together these United States—slavery was abolished.

This Spanish-American war of 1898 is noted for its high death rate from preventable diseases.

Lister, Pasteur, Koch, Edison and many others, some of equal importance, are familiar names to people all over the world. The name of Gorgas and the Panama Canal are synonymous. The Wrights made their first successful flight at Kitty Hawk in 1903. The names of McIver and Aycock are indelibly imprinted in the minds of every North Carolinian. The World War from 1914 to 1918 is referred to almost daily by the average individual and is an event never to be forgotten.

And thus, I approach the subject under discussion, "Preschool Work of the Health Department." This might be changed just a little to read thus: "What has been done in the past generations for the Pre-school Child? What is being done today, now?"

This is a new subject and one which has not yet invaded history, important as it is. The first Health Department was established in this State in 1911. Prior to that time the State Board of Health was the sole agency carrying on health work. It was laying the foundation for what is today one of the best State Health Departments to be found anywhere. Local health departments have increased in number until today there are thirty-eight which employ whole time medical men, dentists, nurses, laboratory technicians and inspectors, serving approximately one-half of the State's population. In addition to this the State Board of Health employs physicians, dentists, nurses, engineers and inspectors. And in addition to this, there are hundreds of official and non-official organizations doing some kind of health work. But putting it all together and scrutinizing it to the bottom, there is but little evidence to be found that the pre-school child is receiving the attention which his status in life deserves.

We are told that in some of the larger cities, medical inspection of school children has been carried on for 35 or 40 years. The idea of medical inspection of school children invaded this State in 1915 while Dr. G. M. Cooper was Director of the Bureau of Rural Sanitation. He employed two physicians to carry on the work. This work has been developed and extended until today the majority of all the school children are examined once every three years, and in many of the larger cities and towns once each year. Not only are they examined, but clinics have been organized for the removal of tonsils and adenoids, fitting glasses, and the correction of oral and nutritional defects. Medical inspection of school children has been so successfully carried on in this State since 1915, by State employees and local health departments that no one could or would do or say one thing to minimize its importance in the past or in the future. It must be carried on. But a careful study of infancy and pre-school children and from statistics and evidence collected by careful observation of public health workers and psychologists, including myself, believe that we have been beginning too far up the scale of life and that we will have to, if we expect to serve humanity best, begin at the beginning.

We are told that on one occasion a parent of a promising three year old, wished him placed under the care and teachings of a famous Greek philosopher. The first question asked was, "How old is the Child?" Upon being told that he was only three, the reply was, "He is too old, I can do nothing for him."

If we felt today as did this Greek teacher the outlook of the children of this generation would be dark indeed. Health work, whether we like to admit it or not, begins at birth; it cannot, if we wished, be deferred to the age of six. In discussing the education of a child, Dr. Howard Richardson, of New York City, said, "From the point of view of the best psychological thought it is possible to state definitely that you have wasted six years out of the best six of your child's time for education by waiting so long. Furthermore, the wisest psychologist insist that the six years wasted are by far, and always, the most important in the whole life of the individual. In these years are formed the main character trends. These will have been set or solidified in their permanent molds by the end of this time and nothing that we can do later in life will undo the harm that neglect and faulty environments and harmful influences have wrought during the first plastic years."

In infancy, we know that regular uniform growth represents, and is, a fair in-
October, 1928

THE HEALTH BULLETIN

It should be equipped with two tables, or one table if the weighing and measuring is to be done in a near-by-room, a pair of scales with measuring rod, a stool or suitable straight chair for the child, a few chairs, suitable literature and posters. The physician, of course, will provide himself with tongue depressors, record forms, stethoscope, tape measure and a standard weight for height and age chart. And here, may I remind you, not to put too much stress upon this; because your estimate of the state of nutrition of the child after you have completed the examination is the best index I know of for which to gauge the nutrition of the child.

It has been my practice to admit only one or two, not more than two children, together with their mothers, to the examining rooms at one time. One can not, and should not be expected to, make a satisfactory examination of a child with a room full of children and their parents.

The child should be weighed, measured and history taken by a nurse before he is admitted to the examining room. This gives the physician information which he should have before starting his examination. The first duty of the physician, in starting his examination, is to make friends with his patient, who frequently is very much excited because of the new ordeal which is about to take place. This is ab-

A view of the Smoky Mountains from the highway in Swain County. The Great Mountain National Park in this region will become one of the Nation's most beautiful places.
solutely essential and should never be forgotten by the examining physician. The child should be stripped to the waist, a general inspection is made which begins with the child's head and ends with his toes. My practice is to inspect his head first, his chest second and his extremities last and record my findings. In making this inspection the physician is getting better acquainted with his patient and his patient is getting better acquainted with him. And it is always wise to remember that while you are looking at the patient the patient also indulges in the privilege of looking at you. It is not altogether a one sided clinic. Having completed the inspection, I proceed to examine the child, by this time he is my friend and most of my troubles are over. Again I begin at the head where most of the defects are found; eyes, ears, nose, mouth, cervical and thyroid glands; the chest; heart; lungs; spine and muscular development; and last, his extremities; knock knees, bow legs, flat feet, muscular development and, etc. But little attention is given to the genitalia unless the mother indicates that there is some trouble.

Having completed the examination and recorded my findings I am in a position to give important and valuable information to patient's mother, who should be acquainted with the findings, the degree of damaging defects and an estimate of the child's state of nutrition and in general the value of rest, fresh air, sunshine, proper diet and exercise.

My experience with pre-school children and conducting pre-school clinics is rather limited, notwithstanding the fact that I have been engaged in health work for thirteen years. During this year, assisted by my nurses and the Parent-Teachers Associations, I have held fourteen clinics and examined 302 children. But limited as my experience is, I am convinced, beyond all reasonable doubt, of its importance, first to the child and its parents and second to the school as he is soon to become a part of it. Of the 302 children examined 106, or 35.1 per cent, had tonsils and adenoids of such degree of enlargement that treatment was recommended. There were 19 others who had enlarged tonsils and adenoids but not to the degree that treatment was thought advisable, making a total of 125, or 41.3 per cent, of the children examined suffering to some degree from tonsill and adenoid enlargement. There were 262 classified as normal in weight, or 87 per cent. Twenty-eight were seven per cent underweight or nine per cent, seven were 10 per cent underweight or 2.3 per cent. There was one over ten per cent underweight, and one with defective hearing. Twenty-two had undergone some form of treatment, such as glasses fitted, tonsils and adenoids removed and oral defects. No attempt was made to ascertain defective vision.

This is a small group upon which to base any conclusion whatsoever, if this were all. But this is not all. My thirteen years experience with school children has taught me many things, and one is that if a child has developed a damaging physical defect, the sooner it is removed the better it will be for the child. We see children daily with some form of nasal obstruction, which can not be corrected at that time by removal of tonsils and adenoids, while if it had been done when it should have been there would not be irregular teeth, deformed face and mouth breathing, ear aches would not have developed, running ears would have been prevented, deafness would not be present and submucous operations would not be necessary later in life. Anything that will prevent this, and I am convinced that finding defects early in life, in the pre-school child will. Then this small group, together with my experience and observations, is sufficient evidence for my opinion and I am willing to stand by it.

We know that through all the past centuries from one event to another, from one discovery to another, from one invention to another, from one generation to another, civilization has marched forward on the feet of children, though this has not been recognized until recent years. Parents, as a rule, have never been and are not now, unjust to children; far from it: they have looked for pitfalls through the past centuries; they are looking for pitfalls which surround them in this twentieth century, but in the past, and at the present time, some of them, yes, many of them, simply lack technical knowledge of the complex and highly involved nervous and emotional mechanism of the child with which they are called upon to deal.

But the maudlin sentimentalists will weep over muzzling a dog. —Southern Medicine and Surgery.
The five-year old pre-school child of this year is the school child of next year. He is as much a problem for our consideration, as is the school child.

What are the advantages offered us and the obstacles to be encountered in dealing with him as a pre-school child this year rather than a school child next year?

**FIRST, THE ADVANTAGES:**

1. His physical defects are not as far advanced; the correction will be easier.
2. The corrections can be completed without any consideration of his time.
3. He has no assigned duties to prevent his complete corrections and uninterrupted recovery.
4. The co-operation of parents and school authorities is the maximum to be expected from them.
5. The economic waste is minimized.
6. The expected achievements of this child in school is most exaggerated in the minds of the parents. They desire that he be given every advantage possible. When he disappoints them by becoming an average scholar they will allow him a place with the other neglected defectives. They had hoped that he would become a Washington—either a George or a Booker T.—depending upon the chromatic composition of his skin.

**SECOND, WHAT ARE THE OBSTACLES?**

1. Less accessibility to health and school personnel.
2. Sentiment higher.

Now let us consider more in detail these advantages and obstacles that we have enumerated.

First, "the less advanced physical defects"—The teeth, for instance; the six year molars are just coming through and we are right there on the job to prevent their neglect and if possible, their decay. We are certainly in a position to do the maximum good to the thirty that are to follow. When the eyes have not been abused by close work, corrections, if necessary, can be made before other pathological conditions develop as a result of eye strain. Diseased tonsils can be treated or removed before school opens in the fall. Nutritional corrections can be adjusted in the home where 90 per cent of the errors are found to exist. I think we all agree that the less advanced physical defects are easier to correct.

Second, "the child's time." According to present economic values a pre-school child's time has no computed value. But the school child's first year has a computed value. We are not certain that we can compute it with any degree of accuracy. We know that he has lost one year of school and that it was not the first year that he lost but the year that he failed to get. Perhaps it was a grade in elementary school or a grade in high school or perhaps a year in college. This depends on where he stops school, but his earning capacity throughout his entire life has been lessened by one year of schooling. Then he has lost one year of life. He has failed to live his lost year of life, economically speaking.

Third, "assigned duties to prevent recovery." We all well know that a child doesn't recover in a week or even two weeks from a tonsilectomy nor does he become accustomed to the wearing of glasses to correct his defective vision in a week. Vaccinations affect the child's efficiency in school for a varied length of time. It is very evident that school work is interfered with when children are out for the correction of physical defects. The school authorities are aware of this. And on the other hand, children and parents are anxious to make promotions and they do not co-operate with the physician as they should in the necessary rest for the children since it might necessitate the child remaining away from school several days for complete recovery of the child from the operations and treatments. The assigned duties of the school authorities then interferes with complete and uninterrupted recovery of the child.

Fourth, "maximum co-operation of parents and teacher." There is no reason for the parent and the teacher to fail to co-
operate in the corrections of physical defects in the pre-school child. We are all working for the advantage of both the parent and the teacher. This fact is evident to them and they will lend as much or more co-operation at this time as at any time in the future. Of course, there is a small group that will not co-operate under any circumstances.

Fifth, "the economic waste." We have considered this from the standpoint of the child's own personal life. But we have said nothing about the economic waste incurred on the public or the taxpayer in maintaining a school and a teacher for this child that has physical defects and as a direct or indirect result is a repeater of his grade or grades in school. The state or county is maintaining a school-room and a teacher for this repeater, the cost of which in Forsyth County amounts to $50,000.00 invested in buildings and an annual expenditure of $12,000.00 for teachers to accommodate and entertain this group of repeaters. It might be said that Forsyth County presents no peculiar problem in connection with this "repeating group" and has no monopoly on them as other counties have similar conditions.

THE OBSTACLES

The first obstacle, "the inaccessibility of the pre-school child to health and school personnel." We wish to submit the following for your consideration. Last spring we tried out the following plan with some success: About one month before school closed we secured from the Board of Education a copy of their census of the pre-school children that they expected to enter school this fall. From this list of children we were able to get the name and address of their parents. We prepared a letter and sent it to each pre-school child's parent either by mail or person. This letter announced our pre-school clinic, its date, place and hour as well as other important information such as the necessity of pre-entrance examinations for school, vaccination, etc. We called attention to methods by which the child could attend the clinic. First, we preferred that the parent come himself and bring the child so that he might know first-hand the things necessary to be done prior to entering school. I think our records will bear me out in saying that over twenty-five per cent of the children attending the clinics were accompanied by one or the other of the parents.

Second, the child could come and spend the day with an older brother or sister; the school authorities invited the child to do this on this specific day only. Third, if there were no brothers or sisters, would they allow the child to come with a neighbor boy or girl. Fourth, notify the school nurse to come after the child. We held these pre-school clinics in each of the consolidated schools. We examined over 65 per cent of the pre-school children that are expected to enroll this fall. We were amazed at the response to the clinic announcements. I think our method of getting them out was responsible for our fall attendance.

The findings in the pre-school clinics opened up a new field of follow-up work. Tonsilectomies, for instance, exceeded our charity quota of three per week, which were mostly pre-school children, for the entire summer. Pay cases have responded equally as well. I'm sure, although I have no exact data from which to quote.

THE SECOND OBSTACLE IS SENTIMENT

This is a mother instinct as old as the human race. It is much more evident in some individuals than in others. It is a battle between the emotions and the intellect and with a little outside assistance, emotions always win. We have all taken our good time to make plans and arrangements for the correction of some child's physical defects and a few hours before the time for it to be done, mothers' emotions break up the whole plan. I know of no way to combat this obstacle after it has been allowed to come to a climax. The personality or tact of the individual that has had the interest in the case has much to do with its outcome in one of these highly emotional mothers. The confidence the mother has in the school nurse, teacher or other interested person will often determine her final action in the matter. Some nurses have more trouble handling these cases than others do, which leads me to believe it to be a matter of confidence. Perhaps the power of suggestion has some minor influence.

In working out our pre-school clinic plan we kept in mind: first, simplicity, practicability, inexpensiveness, little inconvenience to any one. We feel that we were fairly successful in getting a good attendance and most of all we feel that we have accomplished something in the way of corrections. We are most often
inclined to spend a lot of time finding physical defects. I am about to come to the conclusion that we are spending too much time finding them compared to that that we should devote to devising means and methods of correcting them. We hope we have not stopped at finding the physical defects for Forsyth County's school and pre-school children. We think we have found something more interesting, something we hope will lead to a co-ordinated effort from both Health and Educational personnel in bringing about corrective measures. Through a cross indexing of the records of the health and school departments the following facts were established.

Sixty-two and one-half per cent, or 4,160 school children, in grades one to seven inclusive, have physical defects which should be remedied without delay.

Fifty per cent of all the children enrolled have repeated their grades at some time, entailing a tremendous personal loss in the life of the pupil and equally as tremendous economic waste to the county and state governments.

Thirty-seven and one-half per cent, or 2,498 of those enrolled, have no physical defects. Of the elementary school children in the rural schools 2,496, or 37½ per cent, which have defects repeat their grades, 25 per cent, or 1,664, have physical defects and do not repeat their grades.

It was further found that of the 2,498 who do not have any defects 833, or 12½ per cent, of all elementary school children in the county are still repeaters. A total of 1,665, or 25 per cent, have no defects physically and do not repeat. That is the group over which the Boards of Health and Education join in singing praises. They are the only school children in the county, outside of the city of Winston-Salem, which do not command and demand the immediate attention of one or the other of the two departments conducting the study and accepting the challenge. The Health Department has accepted the challenge in taking care of the 4,160 and aiding the parents in making the children physically fit.

The Education Department has faced the challenge of the fifty per cent that repeat. Of those 3,329 who repeat, 833 have no school authorities will concentrate their surroundings and instruction that will cause those children to advance along with the others in that classification. That group is considered a direct and especial challenge to the school authorities.

The Board of Health will begin with the 37½ per cent who have defects and do repeat their grades, leaving those who have defects and do not repeat for consideration further along in the work.

According to the analytical survey and study the child in Forsyth County which has physical handicaps has three chances out of four of repeating its grade in school. The child which has no physical defects has only one chance out of four of repeating its grade.

Bad teeth are assigned as the cause for the beginning of physical trouble with the school child, and the public health authorities will continue their efforts to have all diseased teeth removed or treated. From this most common source of physical trouble comes a mouth alive with

Recently this handsome little citizen of Greenville was knocked off his tricycle. He grasped the bumper of the automobile that hit him, the woman driver fainted, and the car ran up on the sidewalk, struck an obstruction and as the car came to a stop the youngster slid out from the tangle and said, "By George, we had a week." The child's action proves that presence of mind may be an attribute of very young children.
bacteria which affects the tonsils. In turn, diseased tonsils lead to a general toxic condition producing rheumatism, heart trouble, bad kidney and general debilitation which lowers resistance and makes the child a fit subject for an attack from tuberculosis and other disastrous diseases.

Sensing that a co-ordination of the work of the health and school authorities would be necessary to bring about the elimination of causes which disturb the progress of children in school, the Forsyth County Department of Education and the Department of Health have over a long period of time been compiling these statistics with reference to this subject. The Board of Education has concentrated upon plans to give the children better educational advantages in every way, better buildings, better instruction, supervision and administration.

The Board of Health has been conducting clinics and examinations in school and homes for the purpose of discovering and remedying physical defects in children.

Now that a definite classification has been prepared, not without a great amount of work and accurate research, the departments have something concrete to work upon.

The economic waste attendant upon children repeating their grades has long been a subject for serious thought and comment by leading economists, educators and public health authorities. Forsyth County is going about the location of the difficulties and determining the most scientific methods that will eliminate a large percentage of the repeaters from the schools and start children well on the road toward establishing themselves as economic assets instead of liabilities to society.

THE PHYSICAL EXAMINATION OF SCHOOL CHILDREN

BY

J. E. SMITH, M.D., Bertie County Health Officer, Windsor

In this paper I am going to try to tell you what I do instead of what I think ought to be done in the physical examination of school children. I am not claiming that my method is the best. I hope someone else will be able to give me a better method. I know of no work the health officer has to do that is of any more importance than the physical examination of school children.

As some of you know the Health Department in my County consists of the Health Officer only. It would take no argument for me to concede that at least one nurse would be of great help.

For six years I did as most of you have done, made a physical examination of all the children at least once every three years. After I finished examining each school I wrote the parents the results of the examination and advised them to take the children that needed attention to their family physician or to a specialist. This procedure sounded all right, but the trouble of it was the fact that when I examined them again they had the same defects and nothing had been done about remedying them.

So when the schools opened last September, I made it a point to be present at as many of the openings as possible. I explained to the parents what I intended doing. Take for example the first school to open. I asked for a place on the program. The principal was glad as they always are, to have you make a talk concerning the health of the children. I explained to the parents what I had been doing in regards to examining their children at least once every three years and told them that they had paid very little attention to the letters I had sent them about the defects of their children and that even if I were drawing a salary I wanted to see some results of my work.

The first school to open was the Roxobel-Kelford. There are about three hundred and twenty-five pupils in this school. I told the parents that on next Monday morning at ten o'clock I would be at their school to examine the school children and that I was not going to examine any child that did not have one of its parents present at the examination. I told them that the principal would let them know which were to be present on Monday. I told the principal to take the families alphabetically and have the parents of fifty children present on that day. Twenty-five
in the morning and twenty-five in the afternoon.

On the next Monday morning at ten o'clock I was present ready for work. Of course I will grant that I did not know whether I would have any parents present. It was something new in my county. To my surprise the ones the principal had told to come came, and they kept coming until all the children were examined except ten and so much enthusiasm had been stirred up that these ten were brought to my office later for the examination. I followed this procedure in all the schools. I examined and got even better response in the other schools.

In conducting this examination, I try not to interrupt the school any more than I am compelled to. I ask the principal for a large room that he is not using for classes. I generally am given the library. All the parents are invited in and given comfortable seats around the library tables. I explain to the parents what I am trying to do and try to impress the importance of their presence. The physical examination cards are passed around and the parents are shown how to fill out the cards correctly. As you know the average family will have three or four children in school. So you see we will have only about six to ten parents present. You may think they would make so much noise that you could not work. I have found them very quiet and greatly interested in the procedure.

While the parents are filling out the cards, I get ready for the examination. In my county smallpox vaccination is compulsory. So I arrange a table covered with towels. My vaccine, needles, ether, etc., are laid out. This table is placed on one side of the examining chair and my instruments are laid on a table on the other side. My measuring chart has been fastened to the wall conveniently. The scales are near by. My eye chart is placed on the wall twenty feet from the examining chair, where the light is good.

About the time I have finished this, one mother says, "Doctor Smith, I am ready." I ask her to come up to the front and bring her children. She and all her children are given seats but one. The mother gives me the card of this one. I glance over the card to see if it is filled out correctly and to see the family history. I give the card to my wife, who does the clerical work for me. The child is measured and weighed and the correct weight put down as C. W. The child is then given the once over to see its general condition and if anything abnormal is noticed that is put down. I examine the head for

Oconaluftee river, Swain County. View taken from the highway bridge on Route Ten. The friend who sends the picture says it is as pretty as its name. It flows by the Cherokee Indian Reservation. The health of the Indians on the Reservation is safeguarded by the Federal Government.
pediculosis, notice the hands and arms for signs of scabies, see if the cervical glands are enlarged. The eyes are next examined. In this examination, we are primarily interested in three things, myopia (short-sightedness), hyperopia (farsightedness), and astigmatism (when the parallel rays of light entering the eye are not brought to a common focus at any spot.) In this work, I do not try to be an eye specialist. I merely do the best I can. I do not use drops in the eyes. I do not think it practicable and, of course, several children read the letters and the astigmatic chart perfectly who have optical defects. One of the first questions I ask every child, and the parent, too, is, "Do the child's eyes give it any trouble?" If they say yes and I cannot find any trouble with the eyes, I play perfectly fair and advise them to go to a specialist who can put drops in their eyes. You can generally find the myopia with the Snellen chart. Very few of your myopic children will complain with their eyes. They just do not play games or do things that they have to see at a distance. If their eyes are very bad the teacher or parent will tell you that they hold their book too close to their eyes when reading. In the hyperopic eye you will very seldom find any trouble without drops in the eye. I have sent or gone with children that had perfect vision with the Snellen Chart to a specialist, but who complained of eye trouble and he would put drops in their eyes and instead of reading 20-20, they would read 20-50 or 20-60. But what are we going to do about that? Are we going to put drops in all the children's eyes and test them? I do not think so. You who have plenty of nurses might try it. I am going to still be frank with the parents of those children I find normal with the Snellen chart and advise them to take their child to a specialist if their eyes give them trouble. There is one bright side to the hyperopic eye that we do not discover. It will oftentimes get better without any attention, but, of course, some of them will get worse. You can find most of the astigmatic eyes with your chart. In the regular examination of the eyes, the child is seated twenty feet away from the eye chart. There must be a good light. The right eye is covered and letters pointed out. If he reads the letters perfectly with that eye, he is put down, left 20-20 or whatever he reads. The left eye is covered and letters pointed out. If the child reads 20-30 or less, I tell the parent that the child needs glasses. The eyes are then tested with the astigmatic chart the same way, except using a different chart. If the black lines do not all look the same, you are pretty safe in saying the child is astigmatic and advise the mother to carry the child to a specialist and get him some glasses. Occasionally a child will say, "Doctor, I can read those little letters." About nine times out of ten that child will be hyperopic.

I examine the teeth and throat next and tell the mother whether the teeth need attention and whether the tonsils and adenoids ought to be removed. Show the mother the bad teeth and tonsils. The heart is next examined. Notice the apex beat, see if there are any murmurs, whether it is regular, too fast or too slow, bounding. If the heart is fast, beating hard, try the child's blood pressure. You will be surprised to find numerous children from ten to seventeen with a blood pressure from 130 to 160 systolic. I am not sure that blood pressure does not begin in your early teens and get higher the older you get until it gets high enough to give symptoms. In examining the lungs of children, of course, we do not expect to find very much pulmonary tuberculosis, but remember in this examination you will have many large boys and girls to examine. I examine all as best I can, about the apices and upper part of chest. You may find some small children suspicious of pulmonary tuberculosis and I am not convinced yet that more children do not have pulmonary tuberculosis than our specialists will admit. Look them over the best you can and if you find an undernourished child whose mother or father died with tuberculosis and find typical moist rales in or near the apex, play safe and advise the mother or father to give that child plenty of rest, milk, ham, eggs, etc., and see if we cannot keep that child from breaking down with tuberculosis later in life. Then for your larger boys and girls, listen at their lungs carefully. Teach them how to cough. You will find more tuberculosis in school children that you think. This finishes the routine examination. I then tell the mother what defects need removing, and impress on her the seriousness of not having the defects removed. Occasionally I will examine a child the best I can and find nothing wrong.
with it. After I have finished, I tell the mother I cannot find anything wrong with her child, but from looking at it I know there is something wrong. I give her a hookworm specimen box and tell her to give the child a purgative that night and send me some of the feces next morning. I bring that home and examine it and tell her the next day if there was any trouble. I advise the mother to bring the child to my office some Wednesday or Saturday for a further examination. In this examination in my office I test the mother’s blood for syphilis as well as the child’s blood for malaria. Also the mother is advised to bring a morning specimen of the child’s urine, which I examine. If any trouble is found, she is sent to her family physician for treatment. I recall one very interesting case. A widow lady had three children that I could look at and tell something was very wrong with them. The physical examination was negative. Upon examining a specimen of the feces of the three I found them all infested with tapeworm. The tape worms were removed and you never saw children improve so radically. I examine the ears for hearing of any child that the parents complain of its not being able to hear although there is very little that can be done for them except in certain cases.

**TUBERCULOSIS IN INFANCY AND CHILDHOOD**

**BY**

**DR. S. E. LEE, Clinic Physician North Carolina Sanatorium**

It is not my purpose to weary the reader with much of the history of tuberculosis, but I think every one should know something about when it was first discovered, and who made the discoveries.

As far back as 460 and 366 B. C., Hippocrates made a classical description of tuberculosis, which in many ways can scarcely be improved upon today. He regarded it as a "destructive process in the lung." Egyptian mummies of the period about 1000 B. C. show distinct tuberculous lesions of the spine. Many other workers made extensive studies of this disease,—between the time of Hippocrates and 1882 when Doctor Koch discovered the bacteria which causes the disease. His was the first step toward a comprehensive understanding of what other men had been working on. Koch was able to isolate these germs and to inoculate animals,—proving conclusively that such bacteria was the cause of tuberculosis.

For many years tuberculosis was only recognized in the adult,—little or no attention being paid to childhood infection. But during the past 20 years at least, it has been recognized that this disease probably kills more infants, between birth and one and one-half years, than any other disease, for infants and children are not only particularly susceptible to tuberculosis infection, but are subject to the most dangerous and rapid forms of the disease—tuberculous meningitis and intestinal and bone types. Seventy-five per cent of all children who have reached the age of 15 years have been infected. This does not mean that 75 per cent have been sick in bed with tuberculosis. A large majority of this 75 per cent are entirely unaware of this infection,—which can be revealed only by a positive tuberculin test.

Tuberculosis infection enters the body usually through two main channels,—which can be revealed only by a positive tuberculin test.

Tuberculosis infection enters the body usually through two main channels, first through the lung,—a far greater number of individuals becoming infected through the breathing of germ laden air. Secondly, they become infected through the stomach—in swallowing the germ. These germs find their way into the lungs or the glands of the body where they may become active at once, or may lie dormant for years. This child may never break down with tuberculosis during his entire life. On the other hand there are certain factors which come up in his daily life—such as prolonged physical and mental strain, under-nutrition, and unhygienic surroundings,—long residence in poorly ventilated quarters, et cetera, which greatly lower his resistance. The diseases of childhood—
measles, whooping cough, influenza, et cetera, often so lower his general condition to the point where this tuberculous infection will become active.

Everyone now-a-days understands something about immunity. The extensive work which is being done in our State by the State Board of Health aided by the medical profession on typhoid and diphtheria prevention has taught the general public the importance of establishing an immunity in any disease where it is possible.

The sad part about tuberculosis is that there is no absolute immunity in man. There is something which comes with the building up of the child's general health—which causes the tuberculous infection to heal.

Every child which is born is free of the tuberculous germ. There is no heredity. He becomes infected after birth. If his surroundings are good and there are no adults in the home, with tuberculosis, this child will probably go on to the age of 5, 6 or 7 years before he gets out into the world where he will receive infection from some other source.

It has been recognized by many authorities that any child who is 10 per cent or more underweight is a tuberculous suspect until he has been otherwise proved. To prove this it is necessary first for the child to have the tuberculin test, which only shows by its reaction that the child has at one time been infected. Or if he does not react to the test he has no infection. Secondly he must have a complete physical examination. This not only brings to light tuberculosis, but often times reveals other defects—such as bad tonsils, teeth, hookworm and marked nervous conditions.

Thirdly, he must have an X-ray examination of his chest which will not only show tuberculosis of the lung proper, but will reveal tuberculosis of the glands which surround part of the lung, but are not actually within the lung itself. It is very desirable to discover tuberculosis in this latter stage before it involves the lung tissue itself. Glandular tuberculosis is most easily cured. To recognize the disease at this early stage means the saving of the lives of many of our children—and the prevention of many cases of active tuberculosis in after life.

The teaching of these children how to live and how to prevent a breakdown in later life, will go a long way toward the prevention and final stamping out of tuberculosi. As Dr. C. C. Aven has so aptly put it, "a few children 'cured' in a sanatorium will eventually react for more co-operative community work in hygienic matters, better building laws, better and more strict enforcement of the anti-spitting laws, better and more strict regulations for handling milk, more careful medical observation of all individuals, a better and broader view of educational matters in public health, and finally a better and more healthful citizenship."

Two years ago the Extension Department of the North Carolina Sanitarium began that which has proved to be a very extensive campaign, for the diagnosis of early tuberculosis in children. This work has been carried on in co-operation with the County Health Departments and other organizations in counties which have no health officers. This work is done entirely in the schools and every place it is being met with the approval and co-operation of the school authorities, and the parents of the children to be examined. The percentage of parents requesting the examination of their children, at these clinics, has been unusually high, considering the fact that almost all attention hitherto has been given to the care and cure of adults, stricken with the disease. But the eyes of the public and the medical profession are being opened, and we wonder that it has taken us so long a time to discover and approach the tuberculosis problem in the right direction—for how great, now are the results, in that we have begun the prevention of the development of the disease in childhood, and the cure of children with positive tuberculosis. And it should not be forgotten, that in the restoration of the health of these children, we have the added advantage of a longer productive period saved to the State. This brings one to think that all the propaganda and educational work which has been done by this Department in adult clinics has not been in vain. 19,626 children between the ages of 6 and 15 years of age, have been given the tuberculin test. 4,297 of which have shown a positive reaction to this test—this being about 21 per cent of the number tested. 3,455 of these positive reactors have had X-ray pictures made of their chests, 314 of which were found to have active tuberculosis—only 20 of this number having tuberculosis of the lung itself, 280 of the being of the glandular type and 14 of the skin, bone et cetera. 3,141 of these chil
dren who showed a positive reaction to the test did not have active tuberculosis. However, these also need safeguarding against the future,—even though they show no “active trouble” in childhood—watchfulness or the restoration of the health of these children, prepares them for the most critical period of life,—adolescence. Supervision and training at this time is most important because these old and latent infections may become active and he would develop active tuberculosis after reaching adult life.

The need of sanatorium care of children is being proved by the work which is being done here at the State Sanatorium and elsewhere over the country.

Some of the reasons for this institutional care are:

1. Safeguarding the child from contact with tuberculous parents or relatives—in this way preventing continuous infection.

2. Discipline in habits, modes of living, et cetera, at an age which is most impressionable.

3. Making an asset to the community of an individual who would otherwise be a liability.

4. The child going home to his own community leads others into ways and requisites for better health.

In conclusion I wish to ease the minds of those who may read this article, that very seldom is it that a child will transmit tuberculosis to another individual. The only one who can do this is the child who has an active condition in the lung which is throwing off bacteria, but there is little danger here where the child is properly cared for. The danger of infection from a child in this condition is further lessened, because rarely ever are these little ones, so seriously affected, able to attend school or other public gatherings.

Our greatest hope is that we may find the little folk who have tuberculosis while they are still in the curable stage, get them into sanatoria where by proper hospital advantages and treatment, training and diet, we can save almost all of them from this dreaded disease. The Extension Department of the North Carolina Sanatorium in co-operation with the North Carolina State Tuberculosis Association and the county departments, is doing much to bring about this very greatly desired result.

A COMMUNITY ASSET

The importance of health as an element of primary importance in a community’s prosperity is emphasized in a bulletin issued by the insurance department of the chamber of commerce of the United States.

An annual saving of at least $1,200,000,000, the Department points out, has been effected by the reduction of the tuberculosis death rate since 1900.

General Gorgas sanitary program, a part of the project for the construction of the Panama Canal, saved the United States Government, it is said, $80,000,000.

The advantage of proper sanitary conditions is of no less importance, from an economic viewpoint, to every community. "The ability of a man to work," the bulletin continues, "depends in large measure upon his health. Whatever reduces his earning capacity in any way reduces the assets of the community. Any decrease in earning power is naturally reflected in reduced purchasing power with the result that every case of illness or premature death involving a loss of wages has an effect upon the community. This may not be noticeable in individual cases, but the total sum is tremendous. According to an eminent statistician, the average workman loses seven days a year due to sickness, a loss of about two per cent of his earning capacity. This amounts in the aggregate to at least $2,000,000,000 for the entire country. Premature death accounts for an even larger loss, conservatively estimated by the same authority to be $8,000,000,000 annually."—Greensboro Daily Record.

Only the Master Artist could paint a scene more peaceful than these moss covered cypress trees by the banks of the sunlit Trent in Jones County.
A BRIEF DISCUSSION OF THE MOST PREVALENT CONTAGIOUS SKIN DISEASES

BY

JOSEPH A. ELLIOTT, M.D., Charlotte, N. C.

IMPETIGO CONTAGIOSA

Impetigo Contagiosa, as the name implies, is a contagious disease. It is produced by a bacterial infection and is frequently seen on the hands, face or legs. Due to the fact that the disease is most prevalent in warm weather it is sometimes called by laymen “summer sores in children.” Children are affected more frequently than are adults, although the latter are by no means exempt.

The initial lesion of impetigo may be a blister (containing clear fluid) and later become pustular (cloudy fluid) or the lesion may be pustular from the start. The blister or pustule soon ruptures exposing a moist red surface from which a yellow serum exudes. This serum dries down leaving a yellow crust, which is characteristic of the disease. Sometimes the crusts curl up at the edges giving the “stuck on” appearance described by Fox.

The disease may occur as a single lesion, a few lesions, or numerous lesions. The most common sites of occurrence are the face, scalp, hands and legs. The legs are frequently affected in children wearing ankle hose.

The course of the disease depends entirely on the care and treatment of the case. If no new inoculations occur, and the lesions are properly treated, they usually disappear in from five to ten days. In cases where the diagnosis is not made and proper treatment not instituted the eruption may become very extensive and last for months. The disease is transmitted by direct contact with infected articles.

Great care should be taken not to touch the lesions with washclothes, towels, etc., and allow these to come in contact with other parts of the body, for without this precaution the disease is often spread. It is best to use cheese cloth to cleanse the affected parts and burn this immediately. It is advisable to keep the crusts removed in order to obtain a quick cure. This may be done by wiping the lesions off with a piece of gauze wet with a weak bichloride solution. Following the cleansing of the lesions, ammoniated mercury ointment should be applied. The treatment should be carried on under the direction of a physician.

SCABIES OR ITCH

Scabies is a contagious skin disease produced by an itch mite called Ascaris Scabiei. The mite burrows into the skin leaving a raised red lesion in which the burrow is sometimes seen as a thin dark line extending into the papule. This lesion often becomes infected forming a small pustule. The lesions are most pronounced on the covered parts of the body, especially around the waist line, around the arm pits and on the thighs. Frequently lesions occur between the fingers and here we often see the typical burrow. In many cases it is difficult to demonstrate a burrow.itching is the most prominent symptom. It is especially pronounced at night often preventing sleep. Due to the severe itching the tops of the lesions are usually scratched off.

The diagnostic characteristics of the disease are:

1. Character of eruption.
2. Distribution of eruption.
4. Itching which is worse at night.

This disease is transmitted through intimate contact with infected individuals or infected articles. Perhaps the most frequent method of contracting the disease is by sleeping in an infected bed or with an individual who has the disease.

Sulphur is the drug of choice in the treatment of the disease. The patient should take a hot bath before applying the sulphur ointment, using plenty of soap and a scrub brush in order to remove the crusts from the lesions. Then apply the sulphur ointment morning and night for three applications. The morning after the last application a hot bath should be taken and the under clothing and bed linen changed. Prolonged treatment with strong sulphur ointments is quite liable to produce a severe dermatitis and for this reason should be avoided. In cases where the
lesions have become pustular it is best to treat the pus infection first and treat the scabies after the pus infection is cleared up. All treatment should be taken under the direction of a physician.

**Pediculosis Capitis or Head Lice**

Head lice are not infrequently found in our public schools. The disease is easily transmitted from one individual to another. Itching of the scalp is usually the first sign of the trouble. Examination reveals nits on the hair and a light gray parasite at the base of the hair. The nits can be distinguished from dandruff by the fact that the dandruff can be easily removed from the hair while the nit cannot. The nit is stuck to the hair by a thin envelope which encircles the hair.

The organisms are killed by using a weak bichloride solution or other antiseptics. Equal parts of kerosene and olive oil are frequently used.

**Ringworm Infection**

There are numerous clinical types of ringworm but we shall confine our remarks briefly to three clinic types:—ringworm of the scalp, ringworm of the thighs, and eczematoid ringworm of the hands and feet.

Ringworm of the scalp is frequently seen in children in congested areas. It usually begins as a small scaly patch. The base of the lesion is red but the scales are whitish or grayish in color. The patch slowly increases in size and the hair shafts become dry, lusterless and brittle. In a short time many of the hairs have fallen while others remain as dead and broken stumps, leaving a partially bald area. The lesions are usually dry but occasionally become pustular. These are few in number at first but if untreated they become numerous. The final diagnosis consists in demonstrating the mycelial threads by microscopic methods.

The quickest and surest method of treatment is by temporarily removing the hair with X-rays. This should be done under the direction of an experienced Roentgenologist.

Ringworm of the thigh, or "jock itch" as it is frequently called by students is most commonly seen in males. It is often transmitted through the interchange of jock straps. It usually occurs on the inner side of each thigh as a red, scaly eruption with a sharply defined raised border. The condition itches severely at times especially when the patient gets over heated. The eruption often spread to the adjacent parts and to other parts of the body. Strenuous treatment with antiparasitic ointments and lotions will control and soon cure the eruption. All contaminated clothing should be sterilized or destroyed.

Eczematoid ringworm of the hands and feet is one of the most common of all skin diseases and one that is difficult to eradicate. It occurs most commonly on the feet. It usually appears as a deep seated blister which itches. The blister may become pustular or rupture and dry down forming a scaly lesion. Numerous blisters may occur forming a weeping surface similar to eczema. Frequently large numbers of the vesicles become pustular forming a pustular dermatitis. Perhaps the most common type seen is the chronic type between the toes. Here the skin becomes soggy and white, which when pulled off, leaves a shiny red oozing surface. This is often called by the layman "summer scald." The disease practically disappears in cold weather to return with warm weather. It is caused by mould infections. Perhaps the most frequent sources of infection are the damp floors around shower baths and swimming pools and infected sand around bathing beaches.

The chronic types are not so serious as long as they remain chronic but very often an acute outbreak occurs which may disable the patient for weeks.

Careful treatment should be instituted as soon as the disease is discovered.
FIRST MAKE THE HOME SAFE

"And why beholdest thou the mote that is in thy brother's eye, but perceivest not the beam that is in thine own eye?"

Nearly two thousand years ago the Nazarene asked this searching question. It is just as pertinent today as it was then. Human nature through the centuries changes little, if any. Now even as of old it is easier to see the imperfections and shortcomings of the neighbors rather than one's own.

Just the other day an anxious query came to the State Board of Health regarding health conditions at one of the State's well-known summer play-grounds. It came from a successful and prominent business man, resident of one of the lively and growing smaller cities of the State. Particularly he desired to know if it would be safe for him to send his wife and children for a vacation to the resort in question. What about typhoid fever? He had read, or heard, that typhoid was prevalent at this place.

A quick check of the records showed that no cases of typhoid fever had been reported during the year from the place under investigation. In a nearby town three cases had been reported, and in the rural section of the county two additional cases. For the year there had been five cases of the disease reported in the county. One of the five had died.

"This information was transmitted to the inquirer with the assurance that there was no cause for undue fear. Added was the advice that ordinary prudence in any event would point to the vaccination against typhoid fever of all members of the family as a "safety first" procedure.

As a matter of curiosity the home city and county of the inquirer was checked as to typhoid. It was found that during the year a total of 32 cases had been reported from his county, and that thirteen of these cases had occurred in his home city. Five of the cases had terminated in death. Further investigations disclosed the fact that this particular county stood very near the top of all the counties in the State in the number of typhoid fever cases reported.

Here was a man well above the common level in intelligence, successful in business, a leader in his city's social and economic life. In taking thought for the comfort and safety of those most dear to him he could easily envision the dangers that might beset them should they journey forth from the sheltering protection of their own home. Apparently it had not entered his mind that there was or could by any danger at home.

Yet the facts showed that from the cause which he especially feared there was more than six times as much danger in his own home city as existed in the place which he desired to be investigated.

The moral, if there be one, seems obvious. In matters affecting health take no real chances. But always be sure that the home itself is made safe.

MILITARY EXPERIENCE WITH INFLUENZA

We are indebted to the July issue of the Boston Monthly Health Bulletin for some very interesting excerpts from the reports of the "Medical Department of the United States Army in the World War." The army reports were prepared under the direction of Major General M. W. Ireland, Surgeon General, and the actual compilation of the data was done by Lieutenant Colonel Joseph F. Siler, Medical Corps, United States Army. The report was indexed as "Volume 9," and the subject was "Communicable and Other Diseases." The following, under the subhead of "Influenza" is quoted verbatim from the Boston Health Bulletin.

"The outstanding calamity of military life in the American Army during the World War was the influenza epidemic. It had ceased to be a matter of serious practical importance by the time experience had shown how casualties from this infection might possibly have been lessened.

"On looking back, evidence is to be found from army records that influenza was a considerable factor in the sick rates of the United States Army for some years before the World War. During the war there was a relative immunity of the troops in Europe as compared with those in the United States. The rise in mortality attributable to influenza occurred simultaneously both in Europe and the United States. American military experience during the World War demonstrated again what has been repeatedly demonstrated by
military experience. There is an inverse correlation between the amount of floor space per man in barracks and the percentage of respiratory infections. The World War experience, however, apparently failed to teach the military novices that the incidence of respiratory infections may be further decreased by excluding troops from sleeping quarters during the day.

"Military experience indicates that the period of infectivity of influenza in individual cases is relatively brief, is limited to the unrecognizable prodromal stage and is over by the time that the fever and prostration appears, and consequently an attempt to control the spread of influenza by isolating persons recognizably sick is futile.

"Individual cases of influenza may, however, be logically isolated for their own sake. Military mortality whether from influenza or measles is not due to either infection of itself. It results from some form of pneumonia, the infective agents of which the influenza or measles patient may already be carrying, and which he will most certainly acquire if placed in a hospital with cases of pneumonia.

"Something more is needed besides pneumonia organisms to make a soldier with influenza or measles develop pneumonia. There are factors in this matter which still remain unknown, but the World War military experience again demonstrated the fact that undue fatigue, the physical stress incident to an adjustment to unaccustomed tasks and new living conditions, not only predisposed to pneumonia but to fatal results as well.

"From a civil, as well as a military point of view, the prevention of mortality from influenza practically resolves itself into the prevention of pneumonia. Nothing is better calculated to kill influenza patients than to hospitalize them with cases of pneumonia.

"Whatever tends to check the distribution of organisms from the mouth or nose among a body of men tends to reduce all respiratory infections, including pneumonia. As already referred to, respiratory infections have been repeatedly found in military experience to be related to per capita floor space or cubic air space in barracks and the occupancy of the same quarters by soldiers both day and night.

"Two army medical officers, Lynch and Cummings, pointed out that during the influenza epidemic military units and also civil institutions using mechanical dish washers, suffered less from influenza and its complications than such units and institutions generally. Mechanical dish washers make possible, but do not assure, the use of water at a sterilizing temperature. The matter subsequently received the attention of other investigators with an official status who though they could find possible reasons to explain a favorable influenza record, where it occurred, without giving credit therefor to the attention paid to the cleanliness of mess gear, and vice-versa. However, this may be, long before the days of Lynch and Cummings a coincidence between the boiling of mess gear and the cessation of epidemics of the kind of infections which complicate influenza had repeatedly been observed in military and naval experience and it may be inferred from ancient Jewish rites that the

Visitors to the southwest counties of North Carolina never fail to note the fine physique of a large percentage of the population. We were, therefore, not surprised when one of our friends sent in this photograph of a twenty-four-year old citizen of Murphy who is six feet and eight inches high and weighs 318 lbs. The death rate is so low out there we are almost ashamed to publish it in the annual report.
observation of similar coincidences had suggested even to the more ancient Egyptians a relation between health and dishwashing."

It is hardly necessary to say that the foregoing comments are extremely interesting not only to military people, but the facts set forth have even greater interest for the civilian population. It is a calamity that such reports as the foregoing represents should be buried in the archives at Washington, instead of having a place of honor on the shelves of every health officer in the land. Comments and observations set forth in an interesting manner, as is the case here, are of profoundly greater importance to the public health officers of this country than nine-tenths of the high priced books that they are forced to buy. In our opinion the United States Government could do no better piece of business for the advancement of the public health than to publish such reports in attractive binding, and send out copies not only to the health officers of the country but to all public libraries.

INTERNATIONALISM THROUGH THE CHILDREN

By VIRGINIA KIRKUS

There is a growing tendency to feel that in the hands of the children lies the future of internationalism, in its best sense. And if that future is to be a rosy one, the children of today must begin to try to understand the importance of sympathetic appreciation of the problems that face the less sheltered, less fortunate children of other lands. We who are helping to make the books that children read are making this the basis for putting in the hands of our American children the picture books of other nations—Czecho-Slovakia, Sweden, Russia, France, Italy, Germany—countries where the love of the children has produced an art in picture-making far ahead of what we can produce in this feverish country of ours. And through these picture books and through the story books of children of other lands, our children are beginning to be able to understand a little something of the lives of children on the other side of the ocean.

In many of these lands, the children of today are still paying the cost of the wars of yesterday. Nowhere is this more true than in the Near East. And as the Christmas season approaches, when, through the pages of picture books and story books, our children learn of the life of these foreign children, so too should they learn something of the sides of their lives that is not fit for pictures and that is not put into stories—the side that tells of under-nourishment, of cold, of lack of clothing, of lack of the opportunities that our children take for granted. And for this reason Golden Rule Sunday has been established on December second, as the climax of a campaign whose chief beneficiaries are the boys and girls maintained by Near East Relief. Now is the chance for the children of happy homes to make their contribution, no matter how small, to the children of less fortunate homes—and of the orphan asylums of the Near East.—Near East Relief, 151 Fifth Avenue, New York.

RESEARCH WORK AND MISINFORMATION

Research work in both field and laboratory in regard to disease prevention is far ahead of popular information. The public has not caught up.

One trouble is that a lot of misinformation from unreliable sources is mixed in with the true, and the reader unable to distinguish and finding after a while he has been humbugged is inclined to discredit all such information, or at least to disregard it.

The physical culture and fasting specialists, the radium and electric belt fakirs and the one-idea diet reformers are examples of the kind of misinformation giving agencies which puzzle and confuse the average man and make him suspicious of all hygienic information.

He is not helped any by the too conservative adviser who gives him no real information at all, but iterates and re-reiterates the slogan, "see your doctor." The average man simply won't see a doctor everytime he gets a scratch on the finger and becomes suspicious when such advice is given."—The Healthy Home.
A VETERAN OUT OF LUCK

There is a State law requiring that all contagious and infectious diseases shall be promptly reported to the State Board of Health by the attending physician.

A majority of the physicians of the State comply with this requirement. Some do not. Occasionally it is forgetfulness. Sometimes it is just carelessness. In a few cases, the doctors resent what they look upon as an unwarranted intrusion into their private practice, arguing that it is no business of the State, or of any one else, whether a patient of theirs has typhoid fever, tuberculosis, scarlet fever or any other disease declared under the law to be reportable.

Of course the requirement of the law for prompt reporting of such diseases is for the purpose of controlling the spread of preventable diseases, of giving warning to others when such diseases occur, and preventing epidemics. Sometimes there develops an angle entirely aside from any public health significance, but of the greatest importance to the individual affected.

Right now there lies in a ward of Oteen Hospital a World War Veteran sick of tuberculosis. More than seven years ago this veteran was treated by his family physician for tuberculosis, then in an incipient stage. He improved and went on about his business. In the course of time the disease flared up again, grew worse. Then he secured admission into Oteen for treatment.

Now there arises the question as to compensation under the Federal laws. Was the disease a result of impairment while in service, or has it developed in the ten years since the war ended? If it had developed as early as 1921, then reasonably it could be connected with the veteran's experience while serving his country, and compensation under the law will be due and payable.

Ask the doctor who diagnosed and treated the case back there in the spring of 1921? He is dead.

Ask the State Board of Health for copy of report from this physician on this man? There is no report.

What will this veteran do? Maybe he will be able to satisfactorily establish the fact that he was under treatment at the time mentioned. It will be difficult, tiresome and discouraging. He is sick and should not have to worry about such a matter. If he can satisfactorily establish what he knows to be true, then he will get the compensation due. It will take time—much of it. He may, of course, be unable to satisfy the officials of the Veteran's Bureau as to the truth of his contention. His physician is dead. There was no report on his case, as required by law. He may be unable to get compensation at all.

Seven years ago if that particular physician had obeyed the law of his State and rendered proper service to his patient, he would have reported the case. Then there would be no difficulty now.

As it is, the chances are that this veteran is out of luck.

SOCIAL HYGIENE—A CO-OPERATIVE TASK

Social hygiene is concerned with the most fundamental of human interests. At the point where the fields of education, ethics, medicine, law and biology converge, there social hygiene finds its place, so that the confluent of knowledge and human behavior may all be synthesized for the more effective furtherance of family integrity. In safeguarding the relations which constitute the family, social hygiene is at the same time safeguarding the very foundation of the civilization in which we are living. Our present civilization is unthinkable except in terms of the family, and, therefore, any activity which is undertaken for the purpose of strengthening family relationships and of stabilizing the fluctuat-

ing opinions more and more prevalent in our day regarding the inviolable sanctity of the family, merits the wholehearted and active support of all thinking people.

Social hygiene is performing the function of an accountant in human assets for the economist, it is acting in the capacity of a guardian for the student of ethics, it is supplying essential data for the student of law and it is equipping the laboratory armamentarium for the biologist. Surely a movement which furthers such ends and places at the disposal of the community such a necessary equipment is well worth the support and co-operation of leaders in civic, educational and community affairs.

—Saint Louis Health Bulletin.
COSTS OF SICKNESS

An extensive study of the cost of sickness in its various aspects and ramifications is being made by a committee of some 40 members representing five broad groups interested in the problems, the medical profession, public health institutions and organizations, economists and the general public. Dr. Ray Lyman Wilbur of Stanford University, is the chairman and Prof. C. E. A. Winslow is chairman of the executive committee.

The first publication outlining the plan of organization and a five-year program has just been issued. Information regarding the work may be obtained from Dr. Harry H. Moore, director of study, 910 Seventeenth Street, Washington, D. C.

In this connection it is also worth while to call attention to the very able address presented by Homer Folks, L.L.D., vice-chairman of the Public Health Council of New York State and secretary of the State Charities Aid Association, before the International Conference of Social Work in Paris, July 12 on the “Distribution of the Costs of Sickness in the United States.” While Mr. Folks enters into a discussion of the costs of sickness his study is primarily of the distribution of these expenses “among much larger groups than the sick people themselves and their families.”

His estimate places the capital loss to the people of the United States through sickness, excluding the non-measurable losses due to loss of future wages and reduced earnings caused by slight illness, at $31.08 per person or $134.68 per family; and he estimates that, including these factors, the total earning power of the United States is diminished by some $15,000,000,-000. Mr. Folks estimates that about 94 per cent of the cost falls on the sick or their families, the remaining six per cent being distributed as a community expense.

—The United States Daily.

DOG OWNER SHOULD BE HELD RESPONSIBLE FOR INJURY CAUSED BY HIS DOG

Down at Kinston last week a worthless dog skulked into the year where an innocent child was peacefully playing. Running to the dog in a most gleeful way, with no worse intentions than stroking it, the animal, evidently vicious by nature, sprang upon the child and mutilated its face in a most horrible manner. The child’s nose was bitten off, according to the news dispatch telling of the horrible occurrence.

The owner of that worthless hound should be made to suffer for allowing him to run unchained. No one should be excused for allowing a vicious dog like that to run at large, and he who does, should fully account for all injury caused by it.

—Stanley News-Herald.

THE ROLE OF SENTIMENTALITY IN PUBLIC HEALTH

Emotions, it is often said, rather than reason are usually behind an individual’s actions. The field of public health offers no exception to the general rule. Consideration for the best interests of the public as a whole is often made to yield to the supposed needs of the individual. The argumentum ad hominem is still supreme—or shall we say the argumentum ad canem? Tower or Rover bites Johnny Jones who had the effrontery to be playing in the school yard or in his own backyard. Poor Johnny has to take the Pasteur treatment and has the skin of his little tummy punctured and a welt raised daily for three weeks. By that time bedtime doesn’t look so good to Johnny since he can’t find a comfortable spot to lie on. Johnny and his father go to remonstrate with Mr. Doglover, the owner of Tower.

He listens to their tale with ill-concealed disgust. Then a noble indignation overpowers him. “What’s the little fool skulking about? He’s still alive, isn’t he? Anyway, he’ll get over it in time.” “Restrain my dog?” “How wicked!” “Man’s Best Friend” (sober here, and a quotation from Senator Vest). “Besides, what was the kid doing out alone? He knew there were dogs on the street. You can’t keep up a dog on a leash all the time, he doesn’t like it.” And so forth. Except Johnny and his Dad, abashed but unconvinced.

But, honestly, is a dog so much more worth while than a child that he should get all the consideration and the latter none?” —Massachusetts Health Bulletin.
HOW TO PRESERVE CHILDREN

Take two or more children of the runabout age. If they are bright-eyed, rosy-cheeked youngsters, so much the better.

Tuck them into bed early—and leave for twelve hours of quiet, restful sleep.

In the morning, dress them lightly and set at a table in the brightest, cheeriest corner of the breakfast room.

THE PROBLEM OF INFANTILE PARALYSIS

It has recently been stated by Surgeon General H. S. Cumming of the Public Health Service that the practical side of the infantile paralysis problem resolves itself into three main lines: prevention, treatment of the early fever before paralysis has set in, and later treatment. Medical and public health authorities have just about as good a conception of the spread of this as of most other diseases of children. It is primarily carried by people, not by things, so that in times when the disease is prevalent, it is safest to protect children against very close personal contact, particularly with any member of the family who mingles with the general public. As a rule neither those who have the disease, nor well people, carry the germs for any great length of time. Infection comes by way of the mouth or nose, therefore all milk should be well pasteurized, and all eating utensils which may have been used or handled by others should be thoroughly washed with hot Suds.

At present the most promising form of treatment for the early stage of the disease before paralysis begins, is the use of human blood serum from persons who have very recently recovered from an attack. The use of this human serum demands expert technique in preparation and administration. It is also necessary that the physician be called at the first signs of illness and that he be prepared to diagnose the disease without paralysis. Under these conditions it seems that the resulting use of serum, but it must be remembered that even without treatment many cases of the disease occur which leave no paralysis whatever. The name "infantile paralysis" is a poor one, since it does not cover the cases in older children and adults, nor the cases without paralysis. A somewhat better term is "acute poliomyelitis."

To each child, add the following: one small cup of orange juice; one steaming dish of delicious nut-brown "whole-wheat" cereal, several slices of crisp whole-wheat toast, one glass of milk.

Remove the children to a grassy lot. Add a kite, some toys and mix thoroughly.

Cover all over with a blue sky and leave in the sun until brown.—New Mexico Health Bulletin.

THE PROBLEM OF INFANTILE PARALYSIS

which means an inflammation of the gray matter of the spinal cord. To aid in the serum treatment, it is urged that all cases be reported promptly, and that the afflicted, over ten years of age, volunteer some of their blood two or three weeks after recovery from the stage of fever.

However, even with the best that can be reasonably expected in the way of prevention and prompt treatment, epidemics of infantile paralysis leave behind them many victims. The prevention of deformities and the restoration of the children of a useful amount of strength are the problems to be dealt with. It is believed that the wide circulation of information dealing with this matter will greatly aid the important work of rehabilitation which is necessary following every outbreak of infantile paralysis.

For a number of years various State health departments and local health authorities of the communities where epidemics of infantile paralysis have been prevalent, have been advised by the United States Public Health Service regarding the usefulness of information dealing with rehabilitation. It is felt that as with immunization against diphtheria, the after-care of infantile paralysis, though theoretically a function of the private practitioner, is not usually given attention unless taken up by public health organizations and urged and assisted by special efforts. Only in relatively few localities has it been possible for a qualified nurse or physiotherapist to be employed to assist in this after-care, or an orthopedic surgeon to supervise it. Many physiotherapists or orthopedic surgeons, in fact, have not given adequate attention to this particular problem to get the maximum improvement possible. After-care is probably the most important public health function in an outbreak of infantile paralysis.

—United States Public Health Service.
ANTITOXIN
WILL CURE
DIPHTHERIA
SKIPPY: On the Christmas Seal

THAT'S THE CHRISTMAS SEAL. GEE, WHAT A CARGO OF HEALTH THAT SHIP CARRIES

BUY CHRISTMAS SEALS
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils
Cancer
Catarrh
Care of the Baby
Constipation
Colds
Clean-up Placards
Chickenpox
Diphtheria
Don't Spit Placards
Eyes
Flies
Fly Placards
German Measles
Hookworm Disease
Infantile Paralysis
Indigestion
Influenza
Malaria
Measles
Pellagra
Public Health Laws
Prenatal Care
Sanitary Privies
Scarlet Fever
Smallpox
Teeth
Tuberculosis
Tuberculosis Placards
Typhoid Fever
Typhoid Placards
Venereal Diseases
Water Supplies
Whooping Cough

FOR EXPECTANT MOTHERS

The Bureau of Maternity and Infancy has prepared a series of monthly letters of advice for expectant mothers. These letters have been approved by the medical profession. They explain simply the care that should be taken during pregnancy and confinement, and have proved most helpful to a large number of women. If you want them for yourself or a friend, send name to the State Board of Health, and give approximate date of expected confinement.

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TUBERCULOSIS ON THE TOBOGGAN

"Watchman, what of the night?"
"Where do we go from here?"
(See outside back cover page for illustration)

We now know enough about tuberculosis to eliminate it from our State and nation. The National Tuberculosis Association is doing one of the finest pieces of co-operative research, confined solely to the tubercle bacillus, that has ever been done in the history of the world. Thirteen of the great Universities in the United States and Canada, the United States Laboratory of Hygiene, Washington, D. C., the Laboratory of the United States Department of Agriculture and two commercial laboratories are all co-operating in a scientifically related manner, and, too, with an exceedingly small outlay of cash. The cash comes from the annual sale of Tuberculosis Christmas Seals. They hope to find out everywhere there is to know about the tubercle bacillus, and, too, they will be so glad if they can find a cure for tuberculosis like we have for diphtheria. Whether they do or do not, we now know enough about tuberculosis, if every one would make use of this knowledge, to wipe tuberculosis from the face of the earth, just as we are doing the yellow fever.

We have a wonderfully efficient State Sanatorium that now has about 500 beds with a division for children, which with the North Carolina Tuberculosis Association, head up the fight against tuberculosis in our State. Then we have several very efficient county sanatoria running from twenty to thirty beds, like the sanatorium at Wilmington with Dr. John C. Wessell in charge; the Mecklenburg Sanatorium with more than 125 beds including the division for children, with Dr. John Donnelly in charge; and Forsyth County with a quarter of a million dollar bond issue voted by an overwhelming majority against the registration, ready to begin the erection of buildings. But this is not enough. Every large county should have its tuberculosis sanatorium and for the smaller counties every two or three counties should combine to erect a sanatorium and every one should have a children’s division, and, of course, should admit both white and colored.

No sanatorium can run without becoming an educational centre for the prevention of tuberculosis, but the main part of the educational work is done by the North Carolina Tuberculosis Association and the Extension Department of the State Sanatorium. The State Board of Health is always willing and ready to lend aid and encouragement. In fact, it was the State Board of Health that established the Extension Department of the Sanatorium. Both of these agencies are needing more funds. The Extension Department of the Sanatorium needs an additional $25,000 for their school children's clinics. They have all the work they can do with their present force until 1930. With the help of the people interested all over the State they hope to get this additional amount from the next General Assembly.

The North Carolina Tuberculosis Association, among many other things, has been developing health education in the schools
November, 1928

THE HEALTH BULLETIN

and colleges, in which is included proper nutrition and how to obtain it, and they have paved the way for these children's diets and have had wonderful co-operation from the schools and colleges, the Parent-Teacher Association, Women's clubs, etc., and last but by no manner of means least, from City and County Health Departments all over the State.

They too are in need of additional funds and they too need an additional $25,000 and they hope to secure this additional amount through the sale of Christmas Seals from Thanksgiving to Christmas. Had you ever thought what the sale of the Christmas Seal throughout the United States from Thanksgiving to Christmas amounts to? The first year of the Seal Sale, twenty-one years ago, it brought in only three thousand dollars. The twentieth seal sale, 1927, brought in more than five million dollars. In our State 75 per cent of the receipts are left in the local community, in most other states, smaller percentages are left with the local organizations. The receipts from the Seal Sale last year in our State amounted to around $32,000,000 and North Carolina could do nothing better than double this amount for 1928.

Childhood tuberculosis is the sector on which we should make attack at this time, we have already had several skirmishes, and are, one by one, taking the outposts, but we should now attack all along the line—in every home. There is no need for a smoke screen any more, we are ready to attack in the open, the guns are ready, the soldiers are well trained and everything is in position to win the greatest victory since the birth of Christ.

Every thing but one, we are very short on ammunition, in fact we have used up nearly all the ammunition we have, and the victory will be lost or postponed to an indefinite time, unless the ammunition is provided at this time. There is plenty of ammunition, easy of access, and yet it is not being delivered to the firing line—the win the victory. (And it must not be for tuberculosis we will be growing strong, fine children both mentally and physically, into healthy strong men and women and enough money would be saved on repeaters and absentees in the schools of the State)

The ammunition needed is money. The Extension Department of the State Sanatorium needs an additional annual appropriation of $25,000 by the next General Assembly, the State Board of Health needs an increased appropriation along several lines, the North Carolina Tuberculosis Association needs the sale sealed doubled at the annual sale from Thanksgiving to Christmas.

METHODS

The Modern Health Crusade or the health habit classes must be continued. The Nutrition Classes, the grounding of all teachers in health education by courses in colleges, etc., as has been done by the North Carolina Tuberculosis Association in cooperation with many other agencies, for example, City and County Health Department, Physicians generally, colleges, school officials which, of course, includes the teachers, Home Economic teachers, Domestic Science teachers, Welfare workers, Parent-Teachers Association, Women's clubs, etc.

In the Children's Tuberculosis Clinics conducted by the Extension Department of the State Sanatorium, 25,700 have already been examined. They found 1.8 per cent or 461 who were ill with tuberculosis and in need of treatment. They found 1,285 or 5 per cent border line cases, that could be cared for in nutrition classes with follow up work in the home by school nurse, aided by school physicians, health officers or local physicians.

The County Tuberculosis Sanatorium has heretofore been referred to. We need more of them and a children's division in connection with every one of them.

CHILDREN'S HOSPITAL

"All the foregoing have been gone into in greater detail in previous Tuberculosis Numbers of the Bulletin, of the State Board of Health, usually the November issue and particularly November, 1926 and 1927, to which reference is hereby made. There is one other thing which we might go into in greater details for the reason that the readers are probably less familiar with it than they are with the foregoing mentioned pieces of work and we are thinking now of the children's hospital; which may or may not be in connection with a Sanatorium. Other names used are, "Fresh Air Camp," "Summer Camp for Undernourished Children," etc. Because it is so nearly ideal from beginning
to end and because the recital of work actually done is so much better than a preachment on what ought to be done and how it should be done, we are going to use as an illustration a piece of work done during the summer of 1928 by Dr. C. W. Armstrong, the energetic and efficient Health Officer of Rowan county.

Doctor Armstrong chose to call his children's hospital "Kamp Kiwanis," because the Kiwanis club of Salisbury, of which by the way, Doctor Armstrong is President for this year, sponsored it. It is proper to recall that the proper and right kind of preliminary work had been done, all the children in the schools of Rowan county had been weighed and measured and the undernourished children selected according to the Wood-Baldwin Height and Weight table. Along with many other things the children's clinic from the Extension Department of the North Carolina Sanatorium has been in action. Every child in the grammar grades has had a tuberculin test and all positive reactors had had a careful physical examination including X-ray. It is a pleasure to give credit to Dr. F. C. Sigman, of Spencer, who rendered splendid service in the X-ray work.

With the aid of the Kiwanis club a goodly number of those most urgently in need of treatment had been sent to the Children’s Division of the State Sanatorium for treatment and every one came back looking and feeling and being a new child. At this juncture the Rowan County Tuberculosis Association was formed, with an initiation fee of $10.00 for each member. The Association started off with a membership of 140, which brought in $1,000. This money was used to pay the expenses of the children above referred to at the children’s division of the State Sanatorium. Any one that wants to can join by paying the initiation fee. This Association also sponsors the Christmas Seal Sale from Thanksgiving to Christmas.

Others could not, some would not go to the State Sanatorium. The thirty boys and girls that filled “Kamp Kiwanis” checked a block, were selected from these.

Now you will admit that the establishment and maintenance of Kamp Kiwanis, with no visible location and no funds with which to pay bills, was an undertaking sizable enough to deter any except a strong heart and a bright, well defined vision. Such was Doctor Armstrong and more, but at that it took the “everlasting teamwork of every bloomin’ soul” to put it over, and that is just the kind of cooperation Doctor Armstrong had.

Witness:
1. The Salisbury Country Club had moved into new quarters and they donated the use of their old club house and grounds.
2. Repairs were necessary, particularly to the plumbing, including the showers and swimming pool and this was donated by a generous plumbing firm.
3. The tents were donated (see figure 1) by the Tallasser Power Company, but have now been purchased at a low price for use next year.
4. The telephone company donated the telephone including rent.
5. The Southern Power Company wired the tents and grounds and put in such fixtures as were needed, and furnished power and lights, gratis.
6. The county convict force cleaned the club building, swimming pool and grounds.

Wonder if their hearts didn’t grow mellow when they found themselves doing a good turn for these children.

And now every thing in readiness without the actual expenditure of a cent by the Health Department—but where is the maintenance fund?

It is told that when Isaac was about to be offered up as a sacrifice by his father, GOD provided a ram, and so in this instance, Doctor Armstrong, having both faith and works, God provided a way and these were the instruments he used.

1. The Rowan County Tuberculosis Association having had a largely increased Seal Sale from Thanksgiving to Christmas 1927, gladly donated a nice sum.
2. The Salisbury Kiwanis Club as before stated back-stopped the proposition and contributed a tidy sum.
3. The City contributed the water and in addition found some money that they needed to spend in order to balance their budget and decided this was a fine place to put it. The County followed suit.
4. The Woman’s Club joined in, the Parent-Teachers Association likewise.
5. Every physician gladly and freely offered his professional service ad libitum for those unable to pay.
6. The ice cream company donated six gallons of ice cream each week, two gallons per day on three separate days.
7. Another organization, perhaps it was
Figure IV—FRANCIS, Age ten. Height 53½ inches.
Figure V—VIRGINIA, Age 12, height 60 inches. Gained 18 pounds. Largest gain of any child in camp.
the Farmers Federation, donated eggs and chickens occasionally.

8. The grocers, dairymen, marketmen, etc., gave liberal discounts from their standard prices.

9. The sunshine which was one of the important and very necessary things was free.

10. Many, many others joined in the success of the enterprise, whose names the writer cannot recall at this time.

PERSONNEL

It is rather remarkable the way this part of the two months work was handled—Dr. C. W. Armstrong, in addition to his duties as health officer, was superintendent and physician in charge and his corps of Health Department nurses did the nursing (see figure II). The dietician, Mrs. Rankin, probably also belonged to the Health Department staff or she may have been a Domestic Science teacher donating her time to this work. The Laboratory work was done in the Health Department laboratory and as mentioned before the entire membership of the Rowan County Medical Society was donated for consultation and such operative work as might be needed, (see figure III). These thirteen children had their tonsils and adenoids removed. Doctor Armstrong is wisely following up the operation with sun baths. Francis gained five pounds in three weeks following removal of tonsils. (See figure IV).

MEDICAL TREATMENT

This brings up the thought, "Just what kind of medical treatment was given these children and what kind of physical examination was given these children in order to find out their physical condition and their physical needs?" Two words would answer the inquiry—complete and thorough. We have already referred to the examination of the chest, the thirteen tonsil and adenoid operations show that the throat and sinuses had been carefully gone into, and the various blood tests were made (and these are exceedingly necessary for in a summer camp at Fayetteville 92 per cent of the children were found to have latent malaria and this could only be diagnosed by a blood examination, and a child who had malaria just could not get well of tuberculosis unless his malaria were found and cured), and then the urine and feces were examined in the laboratory, and so on, until a thorough and complete examination was had of every child, and these were followed by constant clinical study during their entire stay and medical treatment was given each individual child as need was found. In addition the routine followed in treating tuberculosis in children in any well ordered sanatorium.

The question immediately comes up, "Why should a child wait until he has tuberculosis to get a complete and thorough examination by a physician?" "Ah! there's the rub." Every child should have this very same kind of a thorough and complete examination every year of his life and in early life oftener, and adults are only grown up children and they should have it, too. If the parents or other relatives of these thirty children, who gave them tuberculosis, had been so examined and properly treated, then these thirty children and the same for 1.8 per cent of the child population of our State, would never have had tuberculosis. Surely, you can see the end of tuberculosis in North Carolina, if we are only sufficiently interested.

COST FIFTY CENTS PER DAY

The cost is always to be considered in any enterprise. Doctor Armstrong reports that the cost was only fifty cents per day per child. But he hastens to add that this was only made possible by the wonderful co-operation he had and which is mentioned in the first part of this article.

ACCOMPLISHMENTS

Only a few can be mentioned and all will never be known. Virginia gained 18 pounds—see chart figure V and also figure II. Edith had only gained two pounds in the last two years. She was so terribly underweight her normal weight line would be above the top of the chart. She was found to have tuberculosis in '27, but refused to go to the State Sanatorium. Gained six pounds in the eight weeks at Kamp Kiwanis and is on the road to health. See figure VII.

 had been committed to the State Reformatory for boys. He was always in trouble, irrepressible, incorrigible and the average judge thinks only of the chain gang, jail or penitentiary or maybe reformatory for such cases, and so it was decreed that he should be sent to the State Reformatory (undernutrition produces this
Figure VI—VIRGINA WINDERS, prize winner in weight gain of 17½ pounds
Figure VII—EDITH, diagnosed tuberculosis '27—asked that she be sent to sanitorium—refused. Gained 2 pounds in 8 weeks while at Camp Kiwanis.
same condition in many boys and girls). But Dr. Armstrong said, “This boy has tuberculosis and is malnourished, let’s give him a chance in a nutrition camp,” and he became one of the thirty at Kamp Kiwanis. If you could see that boy now, happy, almost robust, willing to accept responsibility, glad to conform to rules, you to would say “It is better to spend money gladly for reclamation, than to spend it sadly for reformation.”

The Civitan Service club wanted to do something to help, many of them had helped as individuals, and so they held their weekly meeting at the Kamp one evening serving a fine barbecue and invited 100 citizens from every section of Rowan County as their guests for the evening, of course, the children and staff were guests too, and Dr. P. P. McCain delivered the principal address. The object lesson was not without its value and the writer had a telephonic message from the barbecue to the effect that the Civitans had a “motto” for this barbecue or better motive, and that results worth while would follow.

OBJECT LESSON

There were visitors there from many parts of our State and from other states, not coming from curiosity, but from interest in the work being done and for the purpose of gaining information.

Perhaps the one most valuable accomplishment is shown in the tabulation of gain in weight. There was a total gain of 170 pounds, (see figure VIII) and the thirty fine, robust boys and girls as seen at the end of this two months (See figure IX), and next to that is the encouragement to others “Go thou and do likewise.”

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<th>Name</th>
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<th>Weight when entering camp</th>
<th>Present weight</th>
<th>Percentage underweight when entering camp June 16th</th>
<th>Height entering camp</th>
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*Where no percentage is given children were normal when entering camp.

Figure VIII
THE NORTH CAROLINA TUBERCULOSIS ASSOCIATION TAKES UP WORK IN HEART DISEASE

On account of the splendid work and equally splendid accomplishments of the North Carolina Tuberculosis Association, the National Tuberculosis Association has authorized it to take on heart disease as a part of its work. This was done after conferring with some thirty-five or forty physicians in the State, who were deeply interested in heart work in their practice and also the President and Secretary of the State Board of Health, all of whom most heartily approved the plan.

Deaths from heart disease have been increasing in number rapidly for some thirty years or more, while tuberculosis has been decreasing even more rapidly, for a clear cut interpretation of this see cartoon on outside back cover page.

This work will be done along the same general lines as the fight against tuberculosis has been conducted. When the Clinician examines a patient for tuberculosis, he will at the same time make an examination of the heart and when he makes an X-ray of the lungs, he will at the same time make and interpret an X-ray of the heart.

There will be more about this as the days come along.

FURTHER ENCOURAGEMENT

LOWEST TUBERCULOSIS DEATH RATE ON RECORD

Attention is directed, first of all, to the death rate for tuberculosis among the white policy holders, 72.0 per 100,000. This is not only a new minimum for any first quarter, but shows an improvement of 11 per cent over the previous minimum of 80.8 registered only last year. Within the brief period of two years the tuberculosis death rate among white wage-earners has been cut by one-sixth. Only five years ago, that is, in 1923, the first quarter death rate for tuberculosis among white persons was 106.3 per 100,000. Thus, in half a decade, it has been cut by approximately one-third. It has been almost halved since 1920. It is unfortunate that corresponding improvement has not been registered for the insured colored population, among whom there was actually a higher rate than during the early months of last year. But with the colored, also, the general picture for tuberculosis shows much improvement. Their rate of 229.3 for the quarter may be compared with 245.6 in 1923 and 310.1 in 1920. This is a drop of 26 per cent in eight years, and indicates some progress in tuberculosis control among our urban negro population. On the other hand, the great difference in the amount of decline among the whites and the negroes points clearly to the field in which the anti-tuberculosis program must increase its effectiveness. Its campaign of education has evidently taken hold of the imagination of the white to a much greater extent than that of the colored people. Greater progress will be made among the latter only when more cases are detected in their incipency and given proper care; when the educational work of public and private health agencies is made more understandable to the negro; when the negro learns to appreciate, much more than at present, that better living and better hygienic conditions mean better health and longer life. An objective of the anti-tuberculosis movement might well be to bring about as great a decline in the death rate among colored persons within the next ten years as has been accomplished among white persons in the last decade.


THIS INCONSISTENT WORLD

Something incongruous with the way in which the rest of the world is run might be noted in the spectacle that has been in process of enactment up near the North Pole for the past six weeks.

Consider the situation. Here are sixteen men, more or less, marooned some-where north of Spitzbergen. Sixteen souls, all worth saving, of course, but nevertheless, only sixteen.

And what expenditures, both in other lives and money, have gone to subsidize large futile efforts to rescue them!

There is Roald Amundsen, whose heroic
gesture in forgetting present enmity to save an erstwhile friend may have brought nothing except death to himself and his companions.

Also there are the extravagant sums of money spent by the six European nations who promptly set out to find Nobile and his men. Airplanes, warships, cruisers, seaplanes, and icebreakers were sent to the scene without apparent reckoning of cost.

Again, let us repeat that these were sixteen valuable men, and all the wealth of the world would not be too much to pay for their rescue, if the argument concerned the value of human life. Yet they are just sixteen, and that number might as well be reduced to six, for hopes of ever finding the other ten were close to zero from the start.

If an estimate of the money expended to save these six or sixteen could be made, the total would without doubt reach a staggering figure. Tens of thousands, and more probably hundreds of thousands of dollars would be the total, when all the items of ship expense, gasoline, coal, oil and man power is reckoned in.

Now consider another picture that is less colorful in appearance, but in reality is infinitely more significant.

Think of the people in this country who die needlessly and avoidably through government laxity in enforcing health and accident legislation. Think of the 2,330 whose lives were taken away by tuberculosis alone in North Carolina last year. Remember that every one of them could have been saved had there been sufficient funds to reach them and to educate and hospitalize them. Imagine what might be done with the immense sums that have been dissipated up in the Arctic wastes.

The difference is, obviously, that these three thousand have died in the old-fashioned manner, in bed, while the sixteen of the Italia's crew appeared to be sentenced to die in an adventurous style that caught the attention of the whole newspaper reading world.

If gods of the ancient Greek variety are still perched on the top of Olympus, they, seeing through our inconsistencies, might very well chuckle over them, if they were not so tragic.—Adapted from Michigan Out-of-Doors.

### PRINCIPAL CAUSES OF DEATH: 1926

<table>
<thead>
<tr>
<th>CAUSE OF DEATH</th>
<th>Deaths in the registration area in continental U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Disease of the heart</td>
<td>209,370</td>
</tr>
<tr>
<td>Pneumonia (all forms)</td>
<td>191,226</td>
</tr>
<tr>
<td>Nephritis</td>
<td>107,797</td>
</tr>
<tr>
<td>Cancer and other malignant tumors</td>
<td>103,332</td>
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<tr>
<td>Tuberculosis (all forms)</td>
<td>99,833</td>
</tr>
<tr>
<td>Of the respiratory system</td>
<td>93,504</td>
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<tr>
<td>Of the meningitis, central nervous system</td>
<td>91,568</td>
</tr>
<tr>
<td>Other forms</td>
<td>89,268</td>
</tr>
<tr>
<td>Cerebral hemorrhage and softening</td>
<td>80,375</td>
</tr>
<tr>
<td>Heart disease</td>
<td>3,788</td>
</tr>
<tr>
<td>Tuberculosis takes fifth place.</td>
<td></td>
</tr>
</tbody>
</table>

Heart disease leads all the rest.

### CHICKEN CLINIC

(Reprinted from Racine Weekly Health Review)

It pays to be a chicken in Racine County, at least if you hold a membership card in certain flocks. These chickens are a de luxe outfit. They live in a fine three-story apartment with steam heat and electric light. They are fed just so, and they get up and go to roost by the clock. When the sun fails to shine, artificial sunlight is provided for them. In return all they have to do is to average an egg every two days throughout the year.

Aside from the fact that a good all-year-round source of fresh eggs is important to the food supply of the com-
munity, the particular thing that interests me is that this fortunate flock of chickens is being treated to a clinic. This is not a clinic for disabled and infirm hens who are tired of laying eggs and wish to retire on pension. Nothing of the kind. This clinic is for young and vigorous chickens and its purpose is to keep them young and vigorous. Healthy chickens, you see, lay high priced eggs.

The point of all this is, of course, that it pays these farmers to maintain the health of their chickens in order to insure continuance of their profits.

It leads one to wonder how many children there are who, in spite of modern health knowledge and opportunities, are being brought up on badly balanced diets without enough sleep, and too much excitement, and laboring under physical defects which could easily be corrected. The progressive farmer is applying the latest possible scientific methods to his business. All too often the parent is less progressive and is permitting himself to fall far behind in application to his children of the new opportunities offered by preventive medicine.

The chicken laying 180 eggs a year is an important commercial asset. The child bringing forth, in the course of time, the citizen of tomorrow is more than a commercial asset—though he is that, too—he is a responsibility and an opportunity for improving the human race.

PREVENTING RELAPSE IN PULMONARY TUBERCULOSIS

From the President's Address, Delivered by Dr. H. Longstreet Taylor, at the 1928 N. T. A. Meeting

(Doctor Taylor Was for Several Years a Resident of Asheville, N. C.)

The relapsing character of pulmonary tuberculosis in cases that have been discharged from treatment is both realized and feared by the medical profession. The study of pulmonary tuberculosis by means of serial X-ray plates, and observations of experimental tuberculosis in laboratory animals, proves that the caseous tubercle may heal by resolution and disappear. Unfortunately such complete healing is not the rule but the exception.

Relapses are due to attacks of intercurrent disease, serious accidents, child-bearing and lactation, to disobedience of the rules in regard to proper methods of work or play, to mental or physical fatigue, to a return to an unhygienic environment, and to many other devious wanderings from the straight and narrow way.

The educational value of a sojourn in a sanatorium is greatly increased by the fact that all the patients are doing the same things and thus the latest arrivals are inducted into the secrets of the new life by example rather than by precept and learn by practice rather than by theory.

IMITATIVE INFLUENCES

The fact that such a large percentage of the inmates of his new world are resting in bed for indefinite periods, soon makes an almost impossible existence in terms of home life, seem quite the thing. In addition to the teaching of the staff, the decalogue of hygienic "Thou shalt nots," as well as numerous "Thou shalt," the lessons learned from the mistakes of omission and commission of other inmates, and the quick retribution that often follows them, occasionally resulting in the much dreaded hemorrhage, are of a peculiarly instructive character. The common mistake in going home prematurely against advice, and the news of the relapse induced thereby, is an object lesson which most sanatorium patients have seen enacted before their eyes.

The strengthening of this weakest link must evidently be begun by prolonging the time of sanatorium residence and more careful study of candidates for graduation. Granted that his condition as shown by the weight and temperature chart, the physical examination records, and the serial X-ray plates are all satisfactory, yet there is still another test of his fitness that he should be required to meet before his discharge. That is his ability to endure at least as much muscular activity as will be required of him when he returns to his home.

A prolonged rest cure should be fol-
owed by a gradual hardening of mind and body to recover from the resulting mental and physical flabbiness. In short we need a cure to end the cure, which the committee of this association on after care has very aptly termed the third stage of treatment.

NEED OF SUPERVISION

The beneficent results of constant supervision, during the critical period after discharge, are shown by the report from the sanatorium of the Metropolitan Life Insurance Company, that of 896 discharged patients 80 per cent were at work seven years afterward.

The danger to unsupervised patients was shown by a survey in New York City of ex-sanatorium patients of the working class. This survey disclosed that 52 per cent of this group had relapsed within a year after leaving the sanatorium. The employees of the Metropolitan Life Insurance Company were most carefully guided, the others were actually deserted in the midst of snares and pitfalls and preordained to misfortune.

Every community supporting a tuberculosis sanatorium should insure itself against the ruinous expense of relapses. Every relapse doubles the cost of that case. Every relapse lessens the value of sanatorium treatment in the eyes of the public and hence the usefulness of the plant to the community. As the incidence of relapse increases, the protection to the community decreases, because of the ever increasing difficulty of concentrating open dangerous cases in an institution whose fruit grows less palatable with time.

The cost of the third period of treatment by such a rehabilitation of placement service as outlined above would be trifling compared to the cost of caring for relapse after relapse in the same case, the result of allowing discharged cases to set sail without chart or pilot.—Michigan Out of Doors.

A HEALTH EDUCATION PROGRAM AIMS

—To raise the “health standard.”

To arouse a “health consciousness”—To increase “health intelligence”

North Carolina schools stood fourth in number of Pennant Winners by states, with a little more than four hundred. Being interpreted this means that more than four hundred classes in grammar grades made an average of performing 54 per cent or more of the health chores, outlined in the Modern Health Crusade program. These chores are intended to form Health Habits.

This shows a nice increase over the previous years. There has been no better method devised of forming proper health habits in the child than the Modern Health Crusade.

PERCENTAGE OF UNDERWEIGHT AMONG CHILDREN IN THE ELEMENTARY GRADbES IN NORTH CAROLINA

School year, 1927-1928

Number children from whom records were received, 48,540.
The Health Bulletin November, 1928

Citation wishes to express the deepest gratitude to every health officer, principal and teacher who aided in reducing the percentage of serious underweights. You are truly helping to conquer tuberculosis.

GROWTH OF CHILD HEALTH EDUCATION

<table>
<thead>
<tr>
<th>Activity</th>
<th>1925-26</th>
<th>1926-27</th>
<th>1927-28</th>
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<tr>
<td>Modern Health Crusaders Elementary</td>
<td>55,000</td>
<td>128,200</td>
<td>131,310</td>
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<td>Primary Pupils given definite daily</td>
<td>*</td>
<td>12,000</td>
<td>23,405</td>
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<tr>
<td>Nutrition Classes</td>
<td>20</td>
<td>210</td>
<td>410</td>
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<tr>
<td>Individuals reach through health</td>
<td>†</td>
<td>96,942</td>
<td>162,331</td>
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<tr>
<td>National Pennant Winners</td>
<td>150</td>
<td>250</td>
<td>400</td>
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<tr>
<td>School Scales</td>
<td>†</td>
<td>70</td>
<td>57</td>
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<tr>
<td>Health Fairy Houses</td>
<td>†</td>
<td>561</td>
<td>325</td>
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</table>

* Included in the above figures.
† No report.

NOTES

1. The children's Tuberculosis Clinics held the past two years have been a most helpful factor in aiding the Nutrition Program.

2. There seems to be a most intelligent grasp of the child health program in the majority of the schools in North Carolina. However, there is a grave need for better teacher training in child health education in our Colleges and Normal Schools.

3. The two notable exceptions are N. C. C. W. and E. C. T. C. These two colleges offer excellent courses in personal hygiene and in Methods of Child Health Education. Duke University and Wake Forest offer excellent courses in personal hygiene during the regular college year. The director of Education of the North Carolina Tuberculosis Association gives courses in Personal Hygiene and Methods of Health Education the first term of the summer session at Duke.

4. There is a gratifying decrease in the percentage of children 10 per cent or more underweight in North Carolina, as the following figures show. There is yet vast room for improvement.

Christmas Seals are levers to root out tuberculosis.—The Crusader.

Man stumbles over mole hills, never over mountains.—Chinese Proverb.

In summer and in winter children need plenty of water inside and outside.

NATIONAL PENNANT WINNERS, 1927-28

<table>
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<tr>
<th>Grade</th>
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<tr>
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<td>7th</td>
<td>26</td>
<td>18</td>
<td>22</td>
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</table>

It is interesting to note that the percentage of underweight went up during the summer vacation. Is it more healthful to be in school than out?

Levers are instruments which make a small amount of force do a great amount of work. The bigger the lever the more work it can do.
### NATIONAL PENNANT WINNERS

<table>
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<tr>
<th>Place</th>
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<th>Grade</th>
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<td>Marguerite Hall</td>
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<td>Albermarle</td>
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PLACE | SCHOOL | GRADE | TEACHER
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Winston-Salem | City View | VI | Blanche Westmoreland
Winston-Salem | Mineral Springs | III B | Mrs. J. A. Yost
Winston-Salem | Mineral Springs | IV B | Willow Benton

THIS ISSUE OF THE BULLETIN

Following the custom instituted several years ago, the November issue of the BULLETIN is devoted to the special emphasis placed in the warfare against tuberculosis in this State. The material was prepared and assembled by Dr. L. B. McBrayer and his associates of the North Carolina Tuberculosis Association. As usual, many helpful articles and interesting facts and figures are presented by Doctor McBrayer and his associates in this number.

HOW TO MAKE A PRETTY CHILD

First choose your child—
'Most any one will do.
Add a quart of milk
And an egg or two.

Garnish with vegetables and plenty of fruit,
Top with a pudding or a chocolate mint.
Then put her out in the sun to stay
Till she takes on a rosy tint.
At half after seven pop into bed.
Cover up warm, all but the head.
Open the windows and shut the door.
Do not disturb for ten hours or more.

Now if you've followed this recipe right,
Your child is certain to rise up light.
Her cheeks will be rosy, her eyes shiny bright,
And she'll be happy from morning till night.

A N INSURANCE COMPANY BEATS THE UNDERTAKER

A certain insurance company spent $60,000 on special examinations for 6,000 policy holders in 1927 and saved $120,000 in benefits paid out, according to Dr. James Wallace of the State Department of Health. In the United States army and navy there are compulsory general annual physical examinations. Doctor Wallace asks if health is any less significant to those engaged in civilian pursuits.

MESSAGE OF THE CHRISTMAS SEAL

I put a Christmas Seal upon
A card I sent out through the mail;
Nor gave a thought to what it meant,
Nor to the ending of the tale.

A child picked up the "pretty stamp,"
And asked its Mother what 'twas for;
Then put his all in Christmas Seals—
The pennies from a hoarded store.

And each one who received a Seal,
Upon his artless, childish scrawl,
Found on his heart engraved the wish
To give, in answer to the call.

So buy them now, today; nor let
Neglect or hardness stop the flow
Of that sweet helpfulness that springs
Where Childhood leads the Way we go.
—Paul Mason.

THE BUSY SUN

"In Summertime we play outside
Fresh air and sunshine bless us,
Indoors with windows open wide.
Good health is always with us.

"Then winter comes, at home we work,
We love it warm and jolly,
But if our rooms are close or dark
We'll suffer for our folly.

"Because those tiny little germs
Which make us weak and sickly,
In darkness there are lots of them,
But fresh air knocks the spots off them.
And sunlight kills them quickly."
## Deaths from Tuberculosis, Pulmonary and All Other Forms; By Age, Race and Sex Groups for Year 1927

| Race                  | Total | Under 1 year | 1 year | 2 years | 3 years | 4 years | 5 years | 6 years | 7 to 9 years | 10 to 14 years | 15 to 19 years | 20 to 24 years | 25 to 29 years | 30 to 34 years | 35 to 39 years | 40 to 44 years | 45 to 49 years | 50 to 54 years | 55 to 59 years | 60 to 64 years | 65 to 69 years | 70 to 74 years | 75 to 79 years | 80 to 84 years | 85 to 89 years | 90 to 94 years | 95 to 99 years | 100 years or over | Unknown or not stated |
|-----------------------|-------|--------------|--------|---------|---------|---------|---------|---------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| **Pulmonary Tuberculosis** |       |              |        |         |         |         |         |         |             |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Male White            | 1,032 | 4             | 1      | 1       | 1       | 1       | 2       | 14      | 48          | 125             | 157             | 159             | 138             | 76              | 72              | 53              | 54              | 41             | 34             | 24             | 17             | 8              | 1              |                 |                 |
| Male Indian           | 12     | 4             | 1      | 1       | 1       | 1       | 1       | 16      | 33           | 66              | 74              | 65              | 55              | 40              | 31              | 22              | 19              | 15             | 12             | 18             | 10             | 6              | 3              |                 |                 |
| Male Colored          | 1,283 | 5             | 1      | 1       | 1       | 1       | 1       | 16      | 33           | 66              | 74              | 65              | 55              | 40              | 31              | 22              | 19              | 15             | 12             | 18             | 10             | 6              | 3              |                 |                 |
| Female White          | 558    | 2             | 1      | 1       | 1       | 1       | 1       | 6       | 12           | 36              | 55              | 53              | 49              | 32              | 26              | 22              | 15              | 12             | 18             | 10             | 6              | 3              |                 |                 |
| Female Indian         | 62     | 2             | 1      | 1       | 1       | 1       | 1       | 3       | 6            | 12              | 15              | 12              | 7              | 3               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Female Colored        | 559    | 3             | 1      | 1       | 1       | 1       | 1       | 6       | 12           | 36              | 55              | 53              | 49              | 32              | 26              | 22              | 15              | 12             | 18             | 10             | 6              | 3              |                 |                 |
| **Tuberculosis (all other forms)** |       |              |        |         |         |         |         |         |             |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Male White            | 119    | 7             | 1      | 1       | 1       | 1       | 1       | 3       | 4            | 6               | 11              | 14              | 10              | 7               | 5               | 3               | 3              | 2              | 1              |                 |                 |                 |                 |                 |                 |                 |                 |
| Male Indian           | 13     | 6             | 1      | 1       | 1       | 1       | 1       | 5       | 10           | 15              | 14              | 10              | 7               | 5               | 3               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Male Colored          | 128    | 16            | 6      | 3       | 3       | 4       | 3       | 2        | 1            | 3               | 4               | 3               | 2               | 1               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Female White          | 66     | 4             | 1      | 1       | 1       | 1       | 1       | 3       | 4            | 6               | 11              | 14              | 10              | 7               | 5               | 3               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Female Indian         | 53     | 3             | 1      | 1       | 1       | 1       | 1       | 3       | 4            | 6               | 11              | 14              | 10              | 7               | 5               | 3               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Female Colored        | 105    | 1             | 1      | 1       | 1       | 1       | 1       | 1       | 6            | 12              | 15              | 12              | 7               | 3               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| **Total Males from tuberculosis** |       |              |        |         |         |         |         |         |             |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Male                  | 1,159  | 11            | 6      | 5       | 3       | 2       | 4       | 12      | 28           | 77              | 148             | 180             | 173             | 146             | 82              | 66              | 56              | 45             | 40             | 32             | 28             | 21             | 17             | 10             | 6              |                 |                 |
| Female                | 1,419  | 14            | 8      | 6       | 3       | 3       | 1       | 19      | 45           | 178             | 291             | 219             | 151             | 128             | 88              | 69              | 46              | 40             | 30             | 26             | 22             | 18             | 12             | 8              |                 |                 |

**Notes:**
- Numbers in the table represent deaths from tuberculosis by age, race, and sex groups for the year 1927.
- The table includes data for both pulmonary and all other forms of tuberculosis.
- The table categorizes deaths by age (under 1 year, 1 year, 2 years, etc.), race (White, Indian, Colored), and sex (Male, Female).
- The table also includes a column for unknown or not stated.
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**Total** 2,339  1,632  1,283  15
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<th>Death Rate Per 100,000 Population</th>
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<td><strong>Heart Disease - 1950</strong></td>
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<td>Heart Disease on the wing</td>
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<td>186 in 1925</td>
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<td><strong>Tuberculosis - 181.3 in 1900</strong></td>
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**BUY CHRISTMAS SEALS**

**LEVEL LAND**

**The Undernourished Child is Sick**

When we take proper care of our children, these airplanes will begin to look for a landing field.

When we take proper care of our children, the bob sled will hit the bottom.

Copyright by WOODLEFF
SAINT LUKE'S HOME
For Old Ladies, Raleigh

In 1894 St. Luke's Circle of the King's Daughters was organized with nine charter members. From that beginning has grown the present Home for Old Ladies. The building pictured above has at present 25 inmates, which is about its full capacity. Inside and out there is not a more cheery place in Raleigh. The city has never had an institution with more popular appeal than this beautiful Home.
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FREE HEALTH LITERATURE

The State Board of Health publishes monthly The Health Bulletin, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may interested.

Adenoids and Tonsils  
Cancer  
Cataract  
Care of the Baby  
Constipation  
Colds  
Clean-up Placards  
Chickenpox  
Diphtheria  
Don't Spit Placards  
Eyes  
Flies  
Fly Placards  
German Measles  
Hookworm Disease  
Infantile Paralysis  
Indigestion  
Influenza  
Malaria  
Measles  
Pellagra  
Public Health Laws  
Prenatal Care  
Sanitary Privies  
Scarlet Fever  
Smallpox  
Teeth  
Tuberculosis  
Tuberculosis Placards  
Typhoid Fever  
Typhoid Placards  
Veneral Diseases  
Water Supplies  
Whooping Cough

SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.:

Prenatal Care (by Mrs. Max West)  
Infant Care (by Mrs. Max West)  
Prenatal Letters (series of nine monthly letters)  
Minimum Standards of Prenatal Care  
What Builds Babies?  
Breast Feeding  
Sunlight for Babies  
Save Your Baby  
Hints to North Carolina Mothers Who Want Better Babies  
Table of Heights and Weights  
The Runabouts in the House of Health (pamphlet for children from 2 to 6 years of age)  
Baby's Daily Time Cards; Under 5 months; 5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 10 months; 11 months to 2 years.  
Birth Lists: 9 to 12 months: 12 to 15 months: 15 to 24 months: 2 to 3 years: 3 to 6 years.

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FOREWORD

BY

CHARLES O'H LAUGHINGHOUSE, M. D., State Health Officer

This particular issue of the Bulletin is a tribute to maturity. Every word is freighted with appreciation, hope and help to those who have grown gray in their service to this State.

Wounds incident to prolonged effort always come and need to be healed. Because of this nearly all in life's afternoon need the help of medical men.

The writer has been vouchsafed more than a score of years of professional service, much of which has been given to the aged; and his philosophy of life has been largely formulated from wisdom gained by conversations with them at their bedside.

Their histories of success and failure: the part they played in making a bankrupt state solvent; their sacrifices and powers of endurance through the period of reconstruction which followed the Civil War: the children of their loins and wombs begotten to develop a state after God's own heart and in God's way makes men who think and love and appreciate, glad to take advantage of any and all opportunities to show gratitude to the veterans in the army which has fought so long and valiantly as soldiers and civilians in the struggle for better things.

The State Board of Health sees physical infirmities in the aged which would not now exist had the science of Preventive Medicine and the knowledge and financial ability of the people been such as would have permitted them when little children to have received adequate treatment from their respective family physicians looking to the correction of disease and diseased tendencies in the daybreak of life.

This to the aged is but "water that has gone over the mill." So far as they are concerned reference to it can do no good; but in the interest of their posterity the thought of Christian service, the thought of economical common sense, the thought of the prevention of deterioration, physical, mental, moral and financial to the grandchildren of those to whom this issue of the Bulletin is dedicated forces itself to the forefront.

If the physicians of this State would give themselves unstintedly to the correction of diseased tendencies and the cure of actual disease in all the preschool children of all the people in North Carolina; when these children become rich in years the "pains, aches and qualms" of three score and ten could not exist.

The State Board of Health would say to the medical profession and to the parents of the State, that having in the past been guilty of the great sin of omission in so far as their duty to preschool children is concerned they are making work for somebody in that you are creating the tremendous job of alleviating the pain and helplessness which will come to the aged that are now your children through the ravages of preventable disease.

Make amends, O you good Doctors, Mothers and Fathers, by taking the 83,000
children that were born to you last year and in so far as possible make and keep them physically whole. Get the habit so that year after year it will be easier and considered a greater privilege to have "little children come unto you for theirs is the Kingdom of Health." Get the habit and remember that every child born to North Carolina is worth $10,000 to the state, $83,000 worth 10,000 apiece, $830,000, 000 of dollars worth of state property. As Christians, as citizens, and as men and women, what are you going to do about it?

**THIS ISSUE**

Since the first English settlers succeeded in establishing permanent homes in the wilderness of what we now know as North Carolina, the one great holiday universally observed by all the people of the State has been Christmas. Literally speaking, masses of literature have been written on the subject. It is even more an epoch in the lives of our people than the first day of the New Year. But Christmas is incomparably the children's day. The center of gravity of everything on that day is in the nursery. All things are designed for the especial happiness of the young people. Santa Claus is not only a very real entity but he is the greatest Being in the Universe on that day. Many are the forlorn childless couples who find cheer on that day in playing Santa Claus to the children of neighbors who are blessed with little ones but who are less fortunate in the possession of this world's goods. This custom is proper and fitting and not only makes the children happy but tends to soften the hardness of life for everybody.

All of us, however, who are past life's meridian, and especially those of us who have aged members of our families, have noted that this happiest of all seasons on this earth for the young people, seems to accentuate by contrast the loneliness of many of the aged, the infirm, and the shut-ins. The writer well remembers the first time this feeling was driven home with poigniant force was many years ago while practicing medicine. We called with the usual greetings upon an old friend—the widow of a surgeon in the Confederate Army and a later country town doctor of the old school. This old woman was one of the Old South's finest, one of the kind it seems to afford so much pleasure today to a certain kind of feminine writer to disparage. Her husband and her own children had all gone on, and she lived in her old home, surrounded with her household idols of other years, happy in the loving ministrations of a daughter-in-law, but overwhelmed in the season's loneliness to her. She responded to our greetings of good cheer with a smile through her tears, as she looked up from some lines she was reading. The verses were from a gifted poet of that day. We recall the following disconnected lines:

"There's a magical Isle up the River Time, Where the softest of airs are playing, And the name of this Isle is the Long Ago, And we bury our treasures there."

It is in this spirit of love and reverence that we approach the idea of making this Christmas number of The Bulletin our "Old Age" issue. It is our fervent hope in so presenting such a symposium that we may offer cheer and hope and joy to the thousands of our readers who are getting on in years.

A statistical writer recently declared that while some fifteen years had been added to the span of life during the last third of a century, it all applied to the saving in infancy and youth. He said that only about one month had been added to the expectation of life of the man of fifty during the past one hundred years. There are unquestionably many things which can be done if commenced early enough in life to not only greatly lengthen the life expectation of the older years but to add immensely to the joy and happiness and comfort of those finest and most useful years of life.

We hope our readers will find interest and courage in some of the material in The Bulletin this month. There is more poetry than in all the issues of the past few
WHEN DOES OLD AGE COME TO MANKIND?

Since the very earliest beginnings of civilization on this earth many questions relating to old age have troubled mankind. The question of when does old age come to an individual, when is he incapacitated for earning a living, when does he reach the senile stage, when is he no longer mentally competent to make a living or to manage his own affairs, the question of when his age impairs his judgment, and the question for employers of large groups of people as to when the best interests of the employing agents is served to retire employees, are one and all questions that effect practically every family sooner or later.

The first two weeks of October this year the New York Academy of Medicine held a great postgraduate school for the benefit of forward-looking physicians throughout the country, assembled in New York for the special courses. Physicians who are masters in their separate lines presented papers and speeches on the various subjects of interest to physicians throughout the world. An important symposium in these courses was the subject of old age.

In its issue of October 21 a writer in the New York Times presented a most interesting "symposium of opinion" by members of the medical profession on the program. It is interesting to note that practically all of the papers, as abstracted by this writer, agree that physical condition, instead of age in years, is the only competent test of age. This we all know to be true. So interesting were some of the opinions expressed that we are here with quoting from the Times two paragraphs from two celebrated physicians. The first is the following by Dr. Alexis Carrel of the Rockefeller Institute. Dr. Carrel said:

"Physiological old age is not at all the same as chronological old age. The number of years a man has lived has nothing to do with his real age. Every human being is different from every other human being."

"In the course of a biological or medical study of old age, it is absolutely necessary to know what is the real age from a medical point of view if we are to deal with an elderly diseased individual; we have to know if his condition is due to aging or to something else. If it were possible to establish the curve of aging of that individual during the maturity period, we would know exactly how long the old age process would last, and we would know if a condition taking place at any time would be the result of the natural process of aging or of some pathological process, and this knowledge of the physiological age would be a method of making the diagnosis of the condition of old people."

A retired preacher living in Raleigh after a long life of consecrated service to his church—active enough now at ninety-four to lead the service in singing "Amazing grace! how sweet the sound."
The second, referring to mental attitudes toward old age, was by Dr. Frederick Tilney, professor of Neurology at Columbia University. Dr. Tilney said:

"In the matter of our mental attitude toward old age, progress is also needed. The later years of life should no longer be regarded as the time for retirement, as the days of patient waiting. To grow old gracefully should be to accept old age as the time for which all the arduous years of life have been lived. Ripe in experience, rich in the gifts of wisdom, is it right for a man to retire simply because his years are many? Not if he has a brain which is healthy and firm and capable of serving his fellow-men. By proper methods of living and prophylaxis he may keep possession of such a brain though he be nearing the century goal. . . . It may not be denied that decay and death are implicit to life. On the other hand, the slow or sudden appearance of dissolution is due more to circumstance than to any fixed chronological schedule. This is surely true of the brain."

**CONTRAST BETWEEN SAVAGE AND CIVILIZED METHODS**

It has been the custom of savages all over the world of destroying the old and the helpless, when they were no longer able to contribute their part to the communistic enterprises of the tribe. This custom even holds today, it is said, in certain parts of the world. On the other hand, the more civilized a people become, the better and more loving care they offer to the aged and infirm. We are quoting a paragraph elsewhere in this issue from Arthur Brisbane, in which he states that perfectly civilized people would prepare individual homes and every freedom and interest, without price, to all people who are old and helpless. This in our opinion will sooner or later be the acid test on which the enlightenment of nations will be judged.

The savages justify themselves in their treatment by saying that the tribe (what we mean as the State), is of more importance and of greater consideration to the race than the helpless individual members. They also reason, if they reason at all, that they are performing a service to the very old and helpless people by putting an end to their sufferings, lest they fall in the hands of savage enemies who would treat them with horrible cruelty.

After all, the chief basis of consideration for old people has its foundation in Christianity. As mankind has advanced step by step, the Christian nations have been the first to establish standards of humane care and kindly consideration for their helpless at both ends of the human scale— their infants and their aged.

**SOME CORPORATION ATTITUDES**

We know a man who years ago began as a boy in the employ of one of the big railroad corporations of the State. He served capably in many capacities, from flagman to conductor on the road, and afterward in clerical work in the general offices of the corporation. When about forty years of age he was advised by his physician that it would be better for him if he could be most of his time in the open air. This he did, severing his connection, of course, with the company.

Having a large family of children, very little savings, and not being familiar with any other kind of work, he naturally found the going bad. Right here we might say that a physician of the present day would not think of offering any such advice except in the advanced stages of some diseases, because a man can easily balance his office confinement with scientific habits of exercise, especially walking in the open air after hours, which would be just as beneficial or more so than to take the risk of trying to make a living and start all over again in something he did not understand.

After about ten years, when this man was fifty years of age, he finally decided that he would make application to the company for reinstatement. He had missed the ten years service and therefore missed the advancement which he would have had before the period of expiration which would have placed him in an important chief clerkship or head of a particular department. The company, having a relief system based on pension for
the retirement age, immediately said no; that this was contrary to company practice. He was regarded as a "dead "un."

Nobody could have any quarrel with the company for having rigid rules and regulations, but it does seem that any company could have a few specific exceptions to these rules and regulations in which such occurrences as the aforementioned could be taken care of, and a former valued employee of more than twenty years standing could come back to the employment of the company and begin where he left off. His competence, his experience in the work, and his general knowledge of the affairs affecting the company at every angle, it seems, would more than balance the few years of leave of absence, so to speak, from the company's work.

Such occurrences as the foregoing happen frequently in every business enterprise in the State and are not alone confined to railroad affairs. Naturally many people, both men and women, are down and out at fifty or sooner, and just as many other men and women at that age are only beginning their full stride, and therefore qualified as never before to render many years of valued service to their homes and to their communities, as well as making a competent living for themselves.

INSPIRING EXAMPLES OF DISTINGUISHED PEOPLE PAST MIDDLE LIFE

It may seem to some a waste of good space to chronicle even a few of the names of persons who have made distinct records long past middle life, but we know of no more important method of emphasizing the possibilities for every old person than to chronicle the names of some of these people. We find such people on every hand in our own communities who are quietly making a living, doing the work of the world assigned to them, and who make no to-do about it. The examples to the writer are far more inspiring than the activities of great generals and politicians and financiers.

One notable example especially comes to the writer's mind as these lines are being written. This example is the case of an Irish woman, born in Dublin more than eighty years ago. She came over to New York and down into North Carolina as a small child in the steerage of an immigrant ship. She grew up and found a young native born Irishman whom she married in her late teens, settled on his ancestral farm near the town of Clinton, where they proceeded to make a good living on that farm. Thirty years ago her husband died, after a lingering illness from tuberculosis, leaving her a widow with nine children.

At that time she was more than fifty years old. She was advised by her neighbors and friends to divide up her little farm among her older children, or to rent it out, and to move into town; that she was too old to take the responsibility of raising her younger children and trying to get a living from the farm. She quietly paid no attention to any such advice. She gave her farm the proper attention, began to raise better crops and more of them, managed with fine business ability, and literally made more and more money every year. As the years went on, one by one of her five oldest children died from tuberculosis, some of them leaving grandchildren for her to raise, which she did with the same care that she did her own children.

In 1927 she made more cotton per acre, at greater net profits, than had ever been made on her farm before. Over eighty years old and mentally competent to look after her farm and doing it. She has the characteristic happy Irish outlook on life and has met her obligations at all times. Mentally she is able today to match wits with any college president of fifty years of age.

Right here in Raleigh, within two blocks of this office, where this article is being written, there is a man who is well over eighty years of age, who is making a living in the insurance business. His hobby is flowers, and the work in the open air in his flower garden, when he is not about his labors, affords him all the exercise he needs, and he is as happy at eighty as the average man is at fifty. So it goes. We might go on and enumerate examples on almost every city block, and in every community in the State, of people of this type.

About a year ago the newspapers
throughout the world carried front page notices of a German workman who had been called into the general office of his employers on his fiftieth birthday and handed the "blue slip." He was called "down and out." The policy of the company was to fill all places of men, when they reached fifty years of age, with young fellows just out of their teens. This man protested that he was then in his prime, that he was certainly worth more to the company at that time than he had ever been in his life. His protests were of no avail. His employers were adamant, and out he went to face the world without savings, without a job, as so many under similar circumstances have to do somewhere every day. After taking stock of his possibilities he recalled that in his earlier years he was fond of drawing. He had kept up practice in his hours of recreation and he decided to apply himself closely to this art and to try to market his product. He was successful from the first, and within five years after being discharged on account of his age he won several valuable prizes at an art exhibition given in his native city in Germany, and was heralded not only throughout Germany but throughout the world as a successful artist. This, of course, is an extreme example of latent talent being utilized late in life. In his case the discharge from the company spelled good fortune for him. In this respect he was probably one out of a million. We only mention it in order to illustrate the fact that age alone should never be the criterion on which to base the earning capacity of any living human being.

Along this line Floyd W. Parsons, a syndicate writer, has published the following significant statement:

"Before deciding to administer an overdose of chloroform to all citizens past 50, we might recall that many of our most remarkable achievements have been wrought by men and women of three score or more. Goethe, Galileo, Herbert Spencer, Bancroft and Verdi produced their masterpieces between the ages of 70 and 85. Joseph Jefferson was still a great actor at 75, and Handel wrote one of his immortal oratorios at that same age. Hindenburg is President of Germany at 87; Balfour is going strong at 90; George F. Baker does a day's work at 88, Elihu Root prepares elaborate briefs at 83, and Edison at 81 is actively engaged in research for a source of artificial rubber."

We might add, in addition to the foregoing names mentioned by Parsons, some other familiar names. For example, Sir Oliver Lodge, one of the world's greatest scientists, is said today, at the age of seventy-seven years, to labor from nine o'clock in the morning until eight at night. He is as young mentally as he was at fifty; and think of the priceless value of his accomplishments to the world and his knowledge today at seventy-seven! Dr. Harvey W. Wiley at the age of seventy or over effected more reforms in the chemistry of foods in his work with one of the departments at Washington several years ago than any other man connected with the government, and, incidentally, Dr. Wiley is still going strong as Health Editor of Good Housekeeping. Probably the most active man in Raleigh, North Carolina, and certainly the most popular and best beloved, is Col. Fred A. Olds at seventy-five. We will suggest that each reader go on and complete the list, which would be too long to undertake in an article of this scope. We think we have mentioned a sufficient number to afford encouragement and inspiration to all of our readers who have passed middle life and are facing the sunset.

**SOME REQUIREMENTS FOR PEACEFUL, HAPPY, AND SATISFIED OLD AGE**

It has been said many times before that one's life is similar to an account at the bank; that in our youth we are making deposits to our credit in health and conservation of vital energies, and that when we pass middle life and begin to draw on this account to the credit of our resources in health and strength, we are able to draw out exactly in proportion to what we have deposited, just like putting money in the bank and checking it out. If we waste our vital energies through indiscretions in our younger years, naturally it means that just that much of our account is drawn
out and the balance is accordingly short what we have expended. Therefore some of the prime requirements for peace and happiness in our later years must be the care with which we guard our health, mental and physical, in our early years.

Some of the other requirements, which are almost as exacting, are that we find the work for which we are most suited, and in which we can be happier, as early in life as possible and stick to that work throughout our productive years. And for those of us who find it necessary, in order to do the work that we like to do, to work in the employ of somebody else; that is, to work for wages or on salaries, it is necessary for us to begin systematic saving in the early years and stick to it all the while. This is very necessary to public employees, on account of the uncertainties of political fortune. It is equally as necessary for the employees of corporations, such as banks and mercantile establishments, which are liable to change hands or go out of business, leaving their employees at middle age or later to shift for themselves. Such occurrences are frequent, and the conditions of such employees, when turned out of positions which they have filled for years, are always tragic, unless they have systematically saved and invested in such a manner that they are able to look with complacency on unemployment at fifty years or later.

Another important requirement is to be happy in one’s occupation, happy in the surroundings and with fellow workers. For the older people who are past sixty-five or seventy, as the case may be, whose children grow up and settle for themselves and whose partners for life die and leave them alone, the problem is a little harder to solve. It is much easier, of course, when financial independence is assured. In such cases it would be better always for such a person to maintain his or her individual home, especially if all the children have married and settled in their own homes. The children have their own lives to live, their own families to rear, and the older members can be much happier by maintaining their own home, if it has to be done on a fifty-foot lot in a two-room house.

These are some of the things that occur to us to pass along at this season to the elderly people among the readers of the Bulletin.

To one and all we wish you a happy Christmas and as bright a new year as you have seen in a long time.
THE LAND OF THE AILING

In a letter just received from an old and valued friend, she starts off by saying that she is grateful to Providence that she and hers are still in the land of the ailing. This expression may be an old one, we do not know. But used in the sense in which this friend has used it, it has peculiar significance. Come to think about it, it is a land of the ailing anywhere, at any time where adult human beings inhabit such a land.

In an article, recently republished in the Health Bulletin, by Dr. John Harvey Kellogg, eminent Battle Creek, Michigan, apostle of positive health, it will be remembered by those of our readers who read his article, that he stated that if every disease of every individual could be positively and absolutely cured and kept cured, people would go on living forever.

For one person who is feeling at any given time absolutely well and good, with- out an ache, pain, or worry of any possible description, probably ninety-five persons at least could be located at the same given moment who would be suffering from one ailment or another. So the most worth while philosophy that we can preach is to prevent all of the ailments that are possible to prevent, arrest those that cannot be prevented, in order to live in comparative comfort with such ailments as cannot be arrested or cured.

The point we are driving at in this item is that while it is impossible for most of us to remove entirely all of our handicaps in the way of different kinds of ailments or chronic conditions, it is possible for most of us to make the best of these handicaps and to carry on in spite of such handicaps, and thus round out a more satisfactory life than we otherwise could to lay down and helplessly surrender to disease or various physical handicaps.

POEMS WHICH CHEER THE SICK AS WELL AS THE AGED

A very close life-long friend, who has been a successful physician, but who for several years past has been handicapped by ill health, and who is now considerably past fifty years of age, last summer sent us the two poems which we quote below. He says that these poems have encouraged him over difficult places when tired and weary and sick, and at the same time trying to face the battle of life cheerfully and hopefully.

This friend is still practicing medicine, but very limited in his work, on account of bad health.

The first of the poems quoted below, he states, has given him a great deal of pleasure during the last few years. It was written by a physician. We have read this poem to a number of friends, and all of them have been impressed as our physician friend says that he has been so many times. The second of the poems our friend states he obtained from an old scrapbook some thirty years ago. He does not know the author. For younger people struggling to establish a place in the world this poem presents some inspiring lines.

We quote:

GROWING OLDER
By A. V. Banes, M. D.

A little more tired at the close of day; A little less care for gold; A little more love for bonds of gold;

A little less anxious to have our way; A little more zest for the days of old; A little more love for the days of old;

A little less ready to scold and blame; A broader view and a saner mind; A little more charity in our views;

A little more care for a brother's name; A little more love for all mankind; A little less thirst for the daily news;

And so we are nearing the journey's end. And so we are faring a-down the way That leads to the gates of a better day. And so we are folding our tents away

And passing in silence at close of day.
A little more leisure to sit and dream;
A little more real the things unseen;
A little nearer to those ahead.
With visions of those long loved and dead.
And so we are passing where all must go,
To the place the living may never know.
A little more laughter, a few more tears,
And we shall have told our increasing
years,
That book is closed and the prayers are
said,
And we are part of the countless dead.
Thrice happy, then, if some soul can say:
"I live because he has passed my way."

LET ME SO LIVE

Let me live, Oh, Mighty Master,
Such a life as men should know,
Tasting triumph and disaster,
Joy—and not too much of woe:
Let me run the gamut over,
Let me fight and love and laugh,
And when I'm beneath the clover
Let this be my epitaph:

"Here lies one who took his chances
In the busy world of men,
Battles, luck and circumstances,
Fought and fell, and fought again;
Won sometimes, but did no crowing,
Lost some times, but did not wail;
Took his beating, but kept going
Never let his courage fail.

"He was fallible and human,
Therefore loved and understood,
Both his fellow men and women,
Whether good—or not so good;
Kept his spirit undiminished,
Never laid down on a friend,
Played the game 'til it was finished,
Lived a sportsman to the end."

Mistress: "You must exercise a little will
tower with him, nurse."
Nurse: "I do try to, mum, but you
don't know his won't power."—London
Mail.

OPTIMISM

Get all the good there is today,
Don't fret about tomorrow.
There's trouble 'round us all the time,
What need is there to borrow?
The wise man gets what joy he can,
And leaves the fool to his folly.
He knows too much to waste his life
In gloom and melancholy.

Look on the bright side every time,
Don't waste your days repining.
When any cloud looks dark and dull,
Turn out the silver lining.
Be wise! Be careful, bright and glad.
Leave to the fool his folly,
And let your motto be: "Cheer up!"
Your rule of life: "Be jolly!"

—Selected.

LET'S TRY 'ER AG'N!

Here's to the chap,
With a smile on his map,
Though fortune has dealt him a thunder-
ous rap
And knocked him clean down on the rear
of his lap,
Whose only remark is, "Gee whiz, what a
slap!
I'll try it ag'in."

I'm there with the guy
With the gleam in his eye,
Though Fate has let loose a stiff punch in
the eye,
And has scattered his pride all over the
sky,
Whose only retort is, "Doggonit if I
Don't go ye ag'in."

I'm strong for the brick
With the courage to stick,
Though Failure has hounded him like the
Old Nick
Who cries out at last, "Now, I'm onto
the trick!
And camped on his trail when the going
was thick,
Let's try 'er ag'in."

—Author Unknown.

"Age does not depend upon years, but
upon temperament and health. Some men
are born old, and some never grow so."—
Edwards.
THE MORE COMMON AILMENTS OF OLD PEOPLE

BY

FREDERICK R. TAYLOR, M. D.

Every age period in the life of a human being is a time of special susceptibility to certain diseases. Infancy, childhood, adolescence, maturity, and old age, all have their peculiar physical liabilities. In the past, the aged have been more or less neglected. Primitive peoples killed their old people or left them to starve, when times were hard, because only those men who could fight or those women who could bear children were thought to be useful enough to be permitted to survive. Even in more modern times, although we realize the value of the experience of age, and although our standards are more humane, there has often been too little interest taken in the diseases of advanced age, probably because of an idea that so little can be done for them that it is hardly worth while to attempt any serious work in this field. In the past few years, however, a considerable number of people have become interested in this subject because careful study has convinced them of the real value of such work.

We can hardly think of old age from a medical standpoint, without thinking of hardening of the arteries, or, as the doctors call it, arteriosclerosis. This is so frequent a condition in old people that it has given rise to the proverb, "A man is as old as his arteries." This does not mean, however, that his arterial, or physical age, is always in proportion to the number of his years—indeed, it means something quite different, viz., that if his arteries are excessively hard, he may be an old man at fifty, whereas if they are not bad, he may be physically young at seventy. There is much truth in this, but it must not be taken too literally. Some men with hard arteries at fifty may live to a very advanced age. If the large arteries are especially involved, the trouble is likely to be less serious than if the smaller ones are chiefly at fault, for when the walls of a small artery become hardened and thickened, it becomes of such small calibre that it takes a high blood pressure to force enough blood through it, and it is liable to rupture, or the artery may even become entirely obliterated so that no blood can go through it, and then the part of the body which gets its blood from that artery dies, and we have gangrene of a foot, a softened area in the brain, or some similar condition elsewhere.

High blood pressure often damages the heart, too, by subjecting it to excessive and prolonged strain. Other papers have been, or probably will be published in this bulletin on the subject of high blood pressure and heart disease, and they may be consulted for further details along this line. Suffice it to say here, that a moderate degree of hardening of the arteries is quite normal in old age, and is not to be feared, but an excessive degree may cause many troubles. Besides a liability to apoplexy or to heart failure, many minor disturbances occur in arteriosclerosis, such as cramps in the legs or abdomen, dizziness, ringing in the ears, difficulty in walking, etc.

There are many factors which tend to cause a premature or excessive hardening of the arteries, and the recognition of the factors at work in any given case is essential if relief is to be obtained. Among the chief causes of the trouble are:

1. Hard labor associated with privation.
2. Unremitting mental strain, especially prolonged worry.
3. Excessive eating. The total quantity is probably of more consequence here than the special kind of foods eaten.
5. Certain chronic poisons, especially alcohol and lead.
6. Heredity probably plays a part to
the extent that some families have a definite tendency to early or excessive hardening of the arteries.

The most essential thing in preventing the rapid development of arteriosclerosis is to get at the cause when possible. Excessive physical or mental strain should be avoided. Eating should be moderate. The bowels should be kept in good condition, and straining at stool avoided, as it raises the blood pressure considerably, and may precipitate a "stroke" of apoplexy. Kidney disease should be detected early by the annual health examination. Alcohol should be avoided. Workers in lead should take every precaution to avoid poisoning, and should be frequently examined to detect the signs of early slight poisoning. Special care should be taken by members of families with a tendency to hardening of the arteries to select occupations, if possible, free from undue stress and strain, and they should lead lives of exemplary moderation.

High blood pressure and kidney trouble may be both causes and results of hardening of the arteries. A narrowed calibre in an artery raises the blood pressure, but a high pressure strains the wall of the artery and hastens the hardening of it. In certain kidney troubles poisons are retained in the system which damage the arteries, and again, when the arteries of the kidneys become hardened, those organs perform their work less efficiently, and still more poisons may be retained. The only way we have to combat these factors is by the periodic health examination, which will detect these conditions early and give a chance for the best treatment to check their progress.

Cancer not infrequently attacks old people. It often shows a less rapid malignant growth than in younger people, with a correspondingly better chance for cure. Cancer of the skin is especially frequent in the aged, and often arises from little brownish raised scaly patches that are seen so often in old people. Any abnormal spot in the skin should be shown to a physician at once, to determine whether it is dangerous or not, and if it is, it should be removed. Such a spot is especially dangerous when it is located at a point where it is subject to constant irritation, as, for example, when a razor passes over it daily in shaving. Old snaggy teeth often irritate the lips, tongue, or mouth, and favor the development of cancer there. Such teeth should receive dental attention before it is too late. Bleeding suggesting a menstrual period in a woman
who has passed the menopause is a grave danger signal, more often than not due to cancer of the womb, and such a symptom demands instant expert examination, as does bleeding from the bowel or vomiting of blood in either sex. Don't let bleeding from the bowel pass as a symptom of hemorrhoids without examination. Often it is due to hemorrhoids, but sometimes it is due to cancer. Even hemorrhoids may cause a severe anaemia, and they deserve expert treatment, for modern methods of treating them are very successful, often without operation, though operation is necessary for some cases. Lumps in a woman's breast should always be considered suspicious and subjected to expert examination as soon as they are detected. Although a rare condition, cancer may occur in the male breast, so that a lump in any breast should be promptly investigated. Abnormal growths or lumps anywhere in the body should be quickly and thoroughly investigated. Such a procedure will do much to lessen the steadily rising death rate from cancer.

The kidneys, as we have already indicated, are often affected in old age. Some of the most serious kidney diseases show no symptoms till death is near, but the annual health examination, including a urinalysis, will detect them early and give a chance to check them. Bladder trouble is frequent in old people. In men, an enlarged prostate is often the cause. In women, a weakening of the supporting parts due to old lacerations from childbirth is a common condition. Stones in the kidney or bladder, cancer of these organs, and many other conditions may cause trouble. Pain, undue frequency, or difficulty in passing the urine; an excessively large or small amount of urine voided, and the appearance of blood in the urine, are all signs of trouble, and should be investigated by a doctor at once. Of course, the amount of urine will be large where the intake of water is excessive, and it will be small where the intake is small or when there is great water loss from perspiration, from a watery diarrhea, etc.

Some degree of deafness may be unavoidable in old age, but every person who is beginning to lose his hearing should consult a specialist, as much may often be done to prevent serious impairment.

The eyes require special attention in old age. Between the ages of forty and forty-five, the lens of the eye begins to lose its elasticity. This is a progressive process, and goes on for many years. It becomes increasingly difficult to see close objects clearly without glasses, but fortunately, properly fitted glasses give complete relief from this difficulty, though they have to be changed every few years to keep up with the progressive changes in the eyes. Cataract, a clouding of the lens in the eye, is largely a disease of the aged. Blindness of the eye involved gradually develops, but when the cataract becomes "ripe", the sight may often be restored by an operation by a skilled specialist.

The teeth, when they remain, require much attention in old age. The dentist should be consulted at least every 6 months when there are teeth left in the mouth. Enough teeth, natural or artificial, should be insisted on for the proper chewing of food.

Old people usually require less food than younger ones. This is to be expected, as the bodily processes are slowing down.

The bones in the aged are brittle, and fracture easily. Broken hips are especially frequent and dangerous. They are often followed by a fatal pneumonia. Therefore, special care should be taken against falls and injuries of any kind. Walking on slippery or dangerous places should be avoided as far as possible.

Plenty of waroth is needed in old age, because cold is felt more keenly and because of the ever-present danger of pneumonia.

Certain nervous and mental peculiarities tend to appear in old age. Sleep tends to be light and intermittent at night, and there is often much dozing in the daytime. Some degree of forgetfulness is a well known feature of age. Noise is irritating to many, and quiet surroundings are highly to be desired. Sometimes the mind fails utterly, but this is fortunately not usually the case.
HEART DISEASE
By Frederick R. Taylor, M. D.

One of the wisest doctors of the past generation, who was family physician to the great Osler when Osler was living in Philadelphia, Dr. M. Howard Fussell, used to say in lecturing to his students, "Always strive to tell your patients the truth, so far as you possibly can. Don't tell a patient who has a damaged heart that is carrying on its work effectively that he has heart disease, and stop there. If you do, you will probably give him the utterly false idea that he has something comparable to a dynamite bomb inside of him that is liable to explode at any moment. Tell him he has some trouble with his heart, but whenever the facts warrant it, show him that by properly adjusting his activities to the strength of his heart, he may be able to live a comfortable useful life, and die at a good old age."

This is sound advice. The doctor himself was a living illustration of his teaching, for though he died of heart disease, he lived a long and useful life and was able to carry on a large practice. However, the fact remains that untimely deaths from the various forms of heart disease are increasing faster than our population, and we must face this fact and earnestly seek the best means of overcoming it.

"Heart disease" is really an almost meaningless term—just as meaningless as "throat disease". There is a vast difference between enlarged tonsils and diphtheria, yet both might be called throat disease. We should speak of heart diseases, for there are many different kinds. Despite the common belief of the contrary, there are very few kinds of heart disease that show any marked tendency to sudden unexpected death, and only one of these, angina pectoris, is a frequent condition. Even this disease may often be held in check by a proper limitation of activity, the avoidance of overeating, and plenty of rest. The great majority of heart diseases that cause death do so by producing a gradually increasing weakness of the heart and circulation, and much time is available, if the trouble is detected early, in which to adopt measures to prevent, so far as possible, excessive wear and tear of the heart.

Heart diseases may be classified in various ways. We may, for example, group them according to the conditions which cause them, and speak of rheumatic heart disease, syphilitic heart disease, hypertensive heart disease (due to high blood pressure existing over a long time), etc. For our purposes, we may consider a different classification, and think of four main groups, as follows:

FUNCTIONAL HEART DISTURBANCES

Here the heart acts in some peculiar or abnormal way, yet shows no recognizable changes when examined after...
death. Most functional diseases are harmless, or relatively so, and death is more likely to occur in old age or from some cause outside the heart, than not.

Diseases of the Lining of the Heart, Including the Valves

The heart is a pump. If there are leaking valves, the blood may be satisfactorily pumped all over the body, provided the leak is not too large. However, the heart must work hard enough to overcome the effects of the leak, so a person who has such trouble must get a proper amount of rest and avoid great exertion, as he has less reserve strength in his heart than does the normal person. The same principle applies when a heart valve is partly obstructed. The patient's condition will depend on the degree of obstruction present. How much exercise such persons may take, and how much rest they need, can only be decided by a competent physician.

Diseases of the Heart Muscle

In many severe fevers the heart muscle is weakened temporarily. A heart that works against too heavy resistance over a long period, as where the blood pressure is constantly high, tends to have its muscle give way before the strain. Angina pectoris is due to trouble in the arteries that run in the wall of the heart itself and supply its muscle with blood.

Diseases of the Covering of the Heart

Pericarditis, pericardial adhesions, etc. These conditions are rather rare, and usually arise as complications of diseases elsewhere in the body, such as rheumatic fever, pneumonia, etc.

There are many subdivisions of these headings, and various other ways of classifying heart diseases, but they are too detailed and technical to discuss here.

The treatment of heart diseases is a matter that can be safely entrusted only to a competent doctor who can keep his patient under observation. What we are interested in is the question of limiting the destructiveness of heart diseases. Here are four rules to follow:

1. In any acute illness, call a doctor promptly and obey his instructions.
2. Where chronic disease that can be removed is known to exist, such as bad tonsils, teeth, etc., do not delay to have the proper treatment to clear up the trouble.
3. If you notice any undue shortness of breath on exertion, any swelling of the feet or other parts of the body, or any pain or other symptoms in the region of the heart itself, consult your doctor at once. Some symptoms, such as a nervous palpitation of the heart, may mean little, but let your doctor decide just what is back of your symptoms. If the trouble is just a functional nervous trouble, dismiss it from your mind, but make sure what it is first.
4. Most important of all, have a careful thorough examination of your entire body once a year by your physician. Many cases of heart disease show no symptoms that attract their victims' attention in their early stages, and many conditions outside the heart that might ultimately result in heart failure will go unnoticed for years unless a periodic health examination is made. The best figures available show that in a large group of people having such examinations the death rate is from 18 to 24 per cent lower than in the unexamined. Life insurance companies are not in business for their health, but they are very much in business for other people's health, and some of them have spent millions of dollars in educational campaigns to demonstrate to people the value of periodic examinations because of the simple fact that these examinations save enough lives to be well worth all they cost to the insurance companies. The evidence is conclusive that you owe it to yourself and your family to go to your own doctor once a year and have a thorough examination, and have every member of your family do likewise.

Training a Toddler

"Has your baby learned to walk yet?"
"Heavens, no! Why he's just learning to drive the car."—Kansas City Star.
We are very much pleased to know that several nurses engaged in public health work in North Carolina have expressed their interest and pleasure at our announcement sometime ago of the intention to conduct a "Nurse's Page" in the Bulletin.

We have received some items which I am sure will be interesting to nurses and others elsewhere in the State. We are taking the liberty of publishing extracts from a letter received from a school nurse at work in Madison County about the first of November. This nurse has been engaged in the work for many years and has worked in counties all the way from Cherokee to Currituck. The following is a part of her letter:

If you have any October Bulletins, please send me a dozen, if you have that many to spare, or less if you cannot send the dozen. I appreciate your sending me the Bulletin monthly. It is always interesting and helpful to have.

"Madison County school children are eating the three apples per day and then some. I find them at schools every day, the most beautiful apples too. There are chestnuts, too, but it seems that chestnuts are not so good as usual. The trees are dying in sections of the county with a disease, and in time it is thought that most of them will be gone.

"I find so many children with bad tonsil conditions, sometimes I think more of the worst throats, and children far away, back in the big mountains, I wonder if my notes to the parents make an impression, and I wonder, too, when I see the child at school if it is possible for the parent to see his way to do something better for his child's health conditions.

"Hot Springs is an interesting small town. I came here yesterday from Marshall to stay until I get around to twelve schools in this section of the county. The superintendent of schools said it is thirty miles from Marshall to several of these schools and I find it rather slow travel over some of these one-way county roads which wind back and forth until the top of a mountain is reached. Then the same way until down the other side and then perhaps a rough, rocky way several miles by the side of a laurel branch, creek or river. Seems I find laurel streams everywhere.

"I had five days' work on the other side of Walnut Mountain from Marshall."
There are four roads over the mountains. The only way I can keep from getting afraid to drive such roads is to only keep eyes looking ahead. If I look otherwise my day's work suffers. But it is worth it all to get my scales into the little schoolhouse and to work with the teacher and her children."

GETTING "AGED"

Another school nurse, writing to one of her fellow nurses from a county which we will certainly not mention, because it might help lead to the identity of the nurse making the observations, makes the following comment concerning some work she had to do among the negro children in that particular county:

"I met about fifty negroes in the county yesterday—men, women and children. The first arrivals were an elderly negro woman on muleback, sitting sideways, followed by a diminutive six-year old negro boy on a mule also. It was a cute picture, and I wished for a kodak. I exclaimed and asked why she did not ride astride. After replying that she "didn't want to," she looked me over very appraisingly and remarked: 'Well, you are pretty if you are getting aged.' Now, what do you think of that for a compliment? Getting old gracefully, eh?"

A SEPTEMBER DAY IN WATAUGA COUNTY

Another nurse writes from Watauga late in September that "surely my lines have fallen in pleasant places." She says: "Good roads, schools, churches, apples, fine air, pure water, beautiful scenery make our northwest a very desirable place to be in, rather than from, in the months of September and October." She further rhapsodizes to the effect that "the highways are cast by red and gold apple trees laden with apples almost ready for harvest. Under the trees the goldenrod, purple aster, Queen Ann's lace, and other flowers make what a writer in one of the State papers last Sunday called 'a darling combination of colors.' To my mind it is one of the very pleasantest places to be in in the fall of the year."

So you see sometimes a school nurse's work is not altogether void of pleasure and happiness.

TEACHING PROTECTION AGAINST TYPHOID AND DIPHTHERIA

Another nurse writes us about the fact that there has been too much typhoid and diphtheria in a county in which she was working this fall. Her interesting letter follows:

"I am just starting out for my day's work, but want to write you today about the October Bulletin. I received my copy Friday and think it is a very valuable number for teachers and nurses too. I went to an all-day teachers meeting here on Saturday, the first they have had since I have been here. I had the copy with me, but had not read it then. The cover is very attractive.

"There was a good number of teachers present at the meeting. Most all of them were teachers who have been to nearly all the schools. I made a talk in the forenoon and in the afternoon the county superintendent asked me to tell them about vaccination. They have had in this county recently two or three deaths from diphtheria, and one of the professors in this school died two weeks ago from typhoid fever. Another teacher in a small school has been down with it ever since I came. I do not think it is epidemic, but it is a good time to insist on vaccination against typhoid and diphtheria. That is the reason the county superintendent was talking about it. I urged all the teachers to get every family in their schools to take the BULLETIN, so they will learn about these things. I have seen a few asafetida bags lately in the sections where they have had these diseases. I suppose you would find them in any section of the State. I told the children that many people wore them fifty years ago. Some of the children had already been vaccinated, of course."

Jimmy: Granny, do your spectacles magnify?

Granny: Oh, yes, they magnify a little.

Jimmy: Ah, well, would you mind taking them off when you cut my next piece of cake?—Exchange.
A chain is as strong as its weakest link is a saying that any child in the fourth grade can visualize. If the children, then why not the teachers? We have in our State several hundred one-teacher schools and even more, I would judge, two and three-teacher schools. Most of them are taught by high school graduates. I do not suppose many are taught by college graduates. These teachers are required to go to summer school where they are taught to teach. The primary teachers teach health, not by a book, but by getting the children to form habits and to break bad health habits already formed during the pre-school age. If all the parents were educated as we hope they will be, in our State, in the next two or three decades, it would not be necessary for the teacher to have to break the child of so many bad habits.

When visiting a school to make the inspection required by the law in our State I endeavor always to enter with a sympathetic feeling toward the teacher and pupils. I try to remember at what disadvantages many of them are working, but I do often have a hard time excusing some of the things I see in the schools, for instance, a whole school of 150 or more using a common dipper, a bucket and dipper in each room. The first and second grade may be numbering fifty and in the same room, the walls covered with attractive posters, many of them health posters, but the children in that room doing the very things the poster is designed to prevent. That is a very weak link in that chain. No matter what else I see in that room, that would lead me to think there is a good teacher, I know there is indifference or ignorance present. There is no excuse for the teacher allowing this. All the stories and posters are "Sounding brass and tinkling cymbals" if they do not get the child to do this one thing at the school where the teacher is responsible. What good some one may say if they go home and use a common drinking cup? That does not lessen the teacher's responsibility in the school. You are educating the child in the school and giving him a standard to go by. There is no need to try to explain how to get the children to use their own drinking cup, it is such a simple thing to do even if there is almost nothing to do with. There are different ways and a teacher who can not devise a way lacks something a teacher should have even if she is teaching in a log school house without desk or black board or even a window. No matter how poor a school house is the children who come to it are precious and they can be given standards to live by.

You have heard of the old woman who bought the brass andirons for her shabby home and then worked to get everything in the house to match the andirons. Dr. Thomas Wood says that a school house should be as good as the best house in a community. I think it should be better than the best in some communities; but no matter how poor a community and how plain the school house there are certain standards in health habits and sanitation that the teacher can maintain and should, for the hastening of the day when all the people in our State will be educated in disease prevention and positive health.

**AGE**

A withered couple on a porch
Sit sunning, dozing, slapping flies.
Long years ago they worked the fields,
Rushing to them before sunrise.
The fences all are rotting down,
The orchards hold but leafless trees:
Even the buildings sag and share
A gray companionship with these.
But he and she know naught of this.
Though bent by age and warped by pain,
They smile and dream they're lovers still,
Walking at twilight down a lane.
—George Lawrence Andrews in Love Story Magazine.
CONTROL OF COMMUNICABLE DISEASES IN SCHOOLS

BY J. A. MORRIS, M. D., County Health Officer, Oxford

The title of this paper is the wording of theory, not experience. When Dr. Sisk requested me to write and read a paper on this subject it occurred to me that he must have in memory some of my former optimistic contentions that it was feasible. I can imagine his bland smile as he, reviewing my monthly reports, counted my mileage the unremitting reporting of cases all the while schools lasted. After the schools were all out the noise of reporting began to recede as the thunder after the passing of a hot summer day cloud.

Control! Ugh! But Dr. Sisk is too magnanimous to crow in this the day of my public confession of defeat. In my disgust I almost thought, “Why, what was a consolidated school made for if it were not first to get immunity to infectious diseases for all the children comprising the school, ... get it despite the protest of the health department—and then proceed to other business.

There was a time when I thought as long as I did the duties of quarantine officer according to the plans stated and inferential in the rules and regulations as to communicable diseases promulgated by the State Board of Health and in the statutory laws of the State, I should approximate control in the ratio of faithfulness of effort.

This delusion possessed me as long as we had the small school. It appeared to me that I was a considerable hindrance to communicable diseases, in spite of the teachers rating my activities as so much of impertinence. For six years we had no epidemics, not even neighborhood ones, with one single exception,—smallpox.

In 1919 we had an invasion of smallpox. Considering how few of the public were immune to this, I wonder until now why we did not have a pandemic. But we did not. Only one township was badly infect- ed. What stopped it? There are only two factors needed to stop any epidemic of understood diseases: (1) an active health department, (2) and the co-operation of the people. Neither one of these factors can be dispensed with and the other alone get results. If the public dreaded other communicable diseases as they dread itch and smallpox every one of them would be easy to control.

I make this point here in working to control. I believe in the use of fear and all other persuasive forces which in any measure move people to the right active co-operation against the spread of diseases. Fear in the face of an epidemic of smallpox made it easy to secure compulsory vaccination of every one attending school in Granville County.

A negro boy of seventeen years in one of the two-teacher negro schools of the county having one hundred and one pupils marketed his tobacco crop in Oxford while there were a few cases of smallpox in the town. He contracted the disease, took it into his school where the only person immune to it was one successfully vaccinated teacher, and all the others, non-immune had smallpox. One hundred and one children and one teacher became vectors of the dreaded stuff; and that community called for help. Help was extended, but not until the annihilation of the school and more than three hundred cases suffered. Here was the operation of fear in a case where there is a remedy—vaccination.

People fear tuberculosis and long for the remedy; cancer likewise excites great fear. People will go to great extremes for the remedy in either case. But there is too little fear of school children's communicable diseases. Real motherhood dreads it, but too many dams have no motherhood. Why do they dread smallpox with such panic? Why forsooth, it leaves you so
ugly, pock marked. Why dread cancer and tuberculosis so greatly? They are considered so relentless. In the public mind when these diseases begin they do not let up until the dreaded thing occurs—ugliness in one case, and death in the other. Is fear too morbid? It is a morbidity not unto mortality. It's the less of the two evils even as typhoid prophylaxis sometimes causes morbid reaction but is not mortal.

In so-called children's communicable diseases is there nothing to dread? Is there nothing occurring but an almost universal morbidity and only a very occasional casualty? Who can prove it true that a person gets well of any disease at all in the sense that his vitality is left impaired?

Vitality is a living power, and we know no disease is vitative. With our scant power of scrutinizing after effects and with the coming again of seeming balance, and no appearance of any positive let down, as determined by the habit of seeing without vision, we take for granted that there is no cellular impairment. We pronounce it "recovered." When our observation becomes keen enough some one will demonstrate that the cellular structure of the whole body, while it acts afterward in any disease in a balanced way, it does so because the subtraction has been universal, and relative powers are the same; but not absolute powers the same. This would account for the human life falling short of the minimum set by the Creator in Genesis 6:3, "And the Lord said my spirit shall not always strive with man for that he also is flesh; yet his days shall be an hundred and twenty years."

Every time infection sweeps through the cellular structure of the body we say the person is sick. He has chickenpox, scarlet fever, typhoid fever, or some other of the various diseases. If he lives through it he does so not in the plane of perfect health which ought to, and will reach to one hundred and twenty years; but he lives in a plane somewhere below that, determined by heritage and disease present and past, so that he falls short of one hundred and twenty years. Heritage and infection conspire to define to what plane he will descend and live or die with any disease.

Whether this scheme of illustrating is accurate and true to what is the real march of life to death we know that diseases are operative to shorten the other end of life.
Not today's living may be cut off, but conditions which would have extended life are cut off today. Time in any case relentlessly would march us to the inevitable end; but disease draws that end hither for every one of us. And so it is written, "The days of our years are three score years and ten and if by reason of strength they be forescore years yet is their strength labor and sorrow; for it is soon cut off, and we fly away," Psalms 90:10. That minimum of one hundred and twenty years intended by the Creator cut down by ignorance and thoughtlessness to fourscore at best! Alack!

Ignorance then of the value of life, of the dangers of life, and of the way of keeping and conserving every moment of it does not this thick veil hide the truth and permit us to go with a false sense of security? We don't fear these small afflictions of children. We get mighty near down to the point of view of Quillen's Willie Willis who is made to say, "That new boy thinks he is something. He is ten years old and ain't never had chickenpox."

In attempting control of communicable diseases in the school, I did it with the energy enjoined in "Whatsoever thy hand findeth to do, do it with thy might." And yet I just flatly failed. I challenged the teachers to put the work on me that they could not do, instructing them to do what I believed they could do. I answered their calls many times in cases of urticaria and other reactions; but I would thank them and tell them I would rather be called ten times to non-communicable diseases than to miss calling and serving in a single case of infectiousness. Alas, in urticaria they had seen something unusual. Coughs were plentiful, but being usual were to them "nothing but a cold" and coryzal symptoms suggested to them nothing, and that in the midst of an epidemic of whooping cough and measles. Measles stayed in school all day and reported next day they had "broken out with measles." Of course I failed.

I worked according to the quarantine rules and regulations of the State in every particular, except in the case of measles I found that fourteen days for isolation of contacts was not long enough, and tried twenty-one days. This kept a few children of good earnest parents out of school sixty-three days and then they caught measles from an unknown exposure. In a half dozen cases of exposures, coryzal symptoms, the sure prodrome of measles appeared the eighth day after exposure. I watched careless people and took a few of them into court for gross infractions of the rules. Enough has been done in my county to make most of its people know that the law forbids spreading diseases, and yet they continue to spread. When the guilty party was chided for the act he would simply say, "I didn't know." I could not prove that he did not know he was doing wrong at the time it was done.

In making application of rules and regulations the application had to be as varied as is the nature or character of those to whom they were applied. "Solomon in all his glory was not arrayed like" the lily of the field makes one conjecture whether, and how, in all his wisdom he would so perfectly settle some of the knotty problems of ignorance, indistinguishable from criminal carelessness, as neatly as he did the disputed baby case by proposing to cleave that baby.

The small school as indicated above did not present quite so complex situation; but the consolidated school necessitates the constant critical watchfulness on the part of some-one capable of measuring the probabilities of the outcome of the attendance of every child who goes to school. The Health Department can not do this. The one in my county has as a personnel the health officer, a public health nurse, and half the time of a clerical assistant. But if I had the whole time of a clerical assistant and a well trained nurse for every school, there would still be the difficulty of contacts of susceptibles made in the trucks with infections before the pupils reached school. These trucks are dosers. With no discrimination every child who presents himself is taken up, infected and uninfected alike, and shut in with those in before. What good could the whole personnel of the health department on the school ground do then? To cut the enormous ex-
pense of transportation to schools the management must cut the number of trucks to an extreme minimum. The children are packed in some of the trucks until there is not standing room in them. Sometimes a daring boy rather than endure the discomfort of the insanitary jam within, will stand on the outside on the running board or fender. When the public sees that, great fear is expressed that a mortal accident might occur; and it might. But how little is the concern about what is taking place inside that is morbid, which if not so spectacular leads in the direction of the mortal! Whatever infection enters such a jam must be taken by the non-immune. There is hardly any escape. It looks like perfunctoriness to go with quarantine after such. The horse is stolen, and we save our faces by locking the door.

Let's compare the problems in another aspect of the consolidated school. In the small schools there were thirty or more children. In the consolidated schools the ratio above three hundred is as great as the small school was above thirty. The incidence of invasion of infections has been multiplied by ten. So has the number of susceptible contacts with the infections. It's an elementary arithmetical problem to see that the probabilities of spread of disease are many times greater than with the small groups. Am I guilty of knocking the consolidated schools? Not one whit. I believe in them with all my heart. They may be made great conservators. To study the respective mechanisms of the large and the small groups, and to pay the bills for obtaining the same training a pupil gets in one as contrasted with the other, shows conclusively that there is a large saving in money. But what about the saving in the vital stamina of the children? Conservation is the keynote of serious activities of today. In the process of conserving finances let it not be at the cost of health. What do we profit after all that has been improved in schools, if with improved facility for imparting instruction we multiply the impediments to receiving it, and using the increased knowledge thus gained for vital benefits? Is it not plain that the curriculum of the school itself should be to attain to its own freedom from such handicaps; to be so extended as to include instruction in doing whatever can be done to arrest infection? Without improvement along this line the benefits of all these other increased facilities wait for the bringing up of this.

A consolidated eight months school in my county for four hundred and sixty-nine pupils reported last school year eleven thousand three hundred and thirty-four absences. This prorated for the whole enrollment would give every pupil attending more than twenty-four days absence. An eight months school cut to six months three weeks and four and a fraction days; but the expenditure was not likewise cut. True, not all these absences were due to sickness of pupils of that year, the principal estimating that about seventy per cent were. But a proper health curriculum in the schools would after being perfected so energize every collateral productive activity that there would be no need to supplement the efforts of the workers at home by keeping from school the school child.

The need of such a curriculum is seen directly by any medical inspector of schools. Look into the throats of the children the first few days of assembly. Look again at those same throats after four or five months of school. Neglect of something in the curriculum is plainly pictured there.

Whose business is it to defend the schools from disease? It has been delegated to the health departments, and with very little co-operation from the defended. These things are written in no spirit of captious criticism. Let this statement stand emphasized above all other statements. They are conclusions of conscientious study of efficiency methods in the schools. The school is the leader of the public (e duco) to intelligence. Intelligence of high order in any organization is reaching in the direction of self preservation from sickness, seeking medical aid more and more in the matter of preventing dissolution by discovering where dissolution begins, and getting instruction how to manage it by their own efforts. This is the way pointed out to the schools.
As mentioned before an estimate of seventy per cent of those eleven thousand three hundred and thirty-four absences were from communicable diseases. This particular school was beset by measles, whooping cough and chickenpox. If it had been the school method every day to have given lessons and required study of such problems as these became, and emphasized the knowledge of them by review and examinations and grading according to exhibits in these, I am confident that even in that one school year there would have been fewer absences. But education in health is not a program of one year, even as no other subject is; but it ought to be the first on the general program of every day of school life.

The health department should be released to attend the slow process of dealing with those past school age. These have had no education in health matters but at the hands of custom, and custom has not put health first. Like the children the grown-ups think little of the laws of health. They have sight but no vision, and dangers are near them all the time, but are not perceived. The whole is a process of education, slower in the mature than in the child. It is as though the older must unlearn before he can learn.

Ignorance causes a great deal of loss. Health departments are so busy with the effects of ignorance that they must be released by the schools to work with the effects of ignorance, while the schools are busy eliminating the ignorance. This process can not be perfected at once. There are too few teachers who have been taught. The first thing to be done, then, is to initiate the plan or process by which every teacher from the University teacher down to the Kindergartner shall know the place, power, and economic usefulness of such instruction, and the rated capacity of every teacher should be based on tested knowledge of causes and effects in health matters; then the faithful exaltation of the subject until pupils would no longer, as the older ones, take health for granted. The teacher should emphasize the fundamental importance of knowledge and practice of health habits as a basis for every subsequent undertaking.

Control of communicable diseases in schools demands that the teacher shall every day require study of such knowledge of the causes and effects of diseases as the health officer discusses before the school one time a year for every disease incident according to definitions of duties and credits for their performances, as given by the State Board of Health.

Bacterial infection, and toxic infection, and immunity or protection, are big words for a school child, but there are plenty of ways of showing what bacteria are to the simplest child in the school. The word toxin need not even be spoken, but a child can understand the word poison. The meaning of these three words underlies most of the phenomena of cases of, and carriers of, some dread diseases such as diphtheria, scarlet fever, typhoid fever and others. First graders can get instruction of the right sort to make them more careful. The potentialities in bad milk should be studied at length; also the reason for better wells and springs, as well as the meticulous attention to the proper disposal of excreta about their homes. Introduce the word bacteria. Show them. All words are strange when first heard. From bacteria which can be seen when aggregated in great numbers but not singly without the microscope the teacher can reason by analogy of all those communicable diseases whose germs have not been isolated, and which make children sick, sicker or sickest according to the strain of germs and the degree of the immunity of the person. Such a course as this suggests would make the causes of diseases familiar in school child minds, and there would arise out of such minds the helpful co-operation with the schools of not thoughtlessly and ignorantly picking up infection and bringing it to and spreading it in school. The unsanitary conditions in the schools themselves would gradually be eliminated; for questions of such acquired truth would surely be raised.

The control of communicable diseases in schools is mainly the teacher's job and
the way to accomplish it is first for the teacher to know the nature and sources and the modes of transmission of infections and teach this knowledge to the class as a fundamental activity in keeping and teaching the school.

OLD AGE
By Bernice Kenton
When I am old I shall sit quietly
With folded hands, under the noonday sun;
And never let the past drift back to me,
And never hope for years not yet begun,
But watch, as I do to-day, ants in the grass,
And spiders patiently renewing webs,
And the weary flight of gulls that pass
Along the river, while the slow tide ebbs;
And see how bees take honey and wing out
In perilous winds, back to their secret hive;
And watch the flowers opening all about,
And clouds of gnats that dance to be alive;
Until I find myself grown less than these,
Headless as they, and happy, at high noon,
Where all unmindful of grim mysteries
I can forget that death must take me soon.—Scribners.

LIFE
What is life?
Is it a faded rose and a kiss
And a starlit past?
Is it a sob and a laugh of bliss with a grave at last?
Is it goodbye and a turn of the road
To worlds beyond sight?
Is it dragging uphill a weary load
In a scorching light?
It is magic of morning when mist is afield,
And the drowsy sea croons to the beach,
It is a bracing of muscles and breathing of waves
With the strong hand of God within reach.
It is splendour of noonday when hills are at rest,
And calm valleys sleep in the sun,
It is silence unbroken that sings with a lift
"There are strenuous wars to be won."
It is glamour of evening when hedges grow dim
And the angels' hands colour the West,
It is sadness of dreaming, and glory of love
And tired child's longing for rest.
It is wonder of night-time when stars are awake,
And the misty world mutters in fear,
It is silently closing the door of the soul,
That none other but God may be near.
It is morning, and evening, and noonday and night
With their shadows path to be trod.
It is climbing up from the valley of men
To the wind-swept mountains of God.
—T. P. Cameron Wilson, in "Verse of Our Day."

THE BRIDGE BUILDER
An old man going a lone highway,
Came at evening-cold and gray;
To a chasm vast and deep and wide.
The old man crossed in the twilight dim,
The sullen stream had no fear for him.
But he turned when safe on the other side
And built a bridge to span the tide.
A fellow pilgrim standing near
Said "Old man—you're wasting time building here.
You've crossed the chasm dark and wide,
Why build a bridge at even tide?"
The builder lifted his old gray head,
"In the path I've come," he said,
"There followeth after me today
A fair haired youth who must pass this way;
This chasm which has been as naught to me
To this fair youth may a pitfall be
He too must cross in the twilight dim.
Good friend, I'm building this bridge for him."
HOMES FOR THE AGED

There are eighty-two old folks' homes in or near New York City, exclusive of those caring only for the blind, deaf or incurables, according to the first annual report of the Central Information Bureau for the Care of the Aged. The capacity of these homes for old folks is 13,300 beds, of which 5,300 are in public homes, and 8,000 in private homes. Of the total 81 per cent, or 10,700 beds, are in free homes; 2,400 beds are in homes requiring entrance fees, and about 1 per cent are in homes requiring monthly payments. According to the report, there is a scarcity of beds for old folks, and there are waiting lists. The first year's experience of the Central Information Bureau for the Care of the Aged is interesting. Of 357 persons who sought information concerning admission, 106 were between 75 and 95 years old and 176 from 65 to 75. The majority were American born, forty were German born, twenty were born in England, nineteen in Ireland, and the rest represented nineteen other nationalities. The number of women seeking admission was more than twice that of the men. Seventeen religious faiths were represented among the applicants. Of the 205 old ladies seeking admission, eighty-seven were listed as housewives and thirteen as teachers; other occupations were those of actress, author and boarding house keeper, cashier, cook, dressmaker, matron and milliner, saleswomen, silk weaver and concert singer. Among the men, sixty-eight occupations were represented, among which were those of dentist, doorman, editor, expressman, harness maker, head waiter, laborer, lawyer, mechanic, musician, peddler, physician, printer, and stock exchange broker. There is an urgent need in New York for more homes for the helpless aged. Every day sees some aged person suddenly deprived of his sole support; it may be by the accidental death of a son or daughter. There is a combined waiting list of 1,700 in twenty-one homes, and if their experience is characteristic of the seventy-seven private old folks' homes in the metropolitan area, there are more than 6,000 aged persons waiting to be admitted. However, there are a number of vacant beds in homes to which admission is restricted, according to religious faith, membership in some order, occupation, place of residence or payment of a large fee.—A. M. A. Journal.

PLEASE GIVE CORRECT ADDRESS WHEN REQUESTING BULLETIN

Recently in one morning's mail there were twenty-eight individual requests for the Health Bulletin which did not indicate any post-office address whatsoever. Therefore we wish to again request any citizen who desires to receive the Bulletin, that in making the request, either on a postal card or by letter, that the name and address to which it is to go be carefully written out, so that no mistake can be made. When this is done, we have no trouble in seeing that the name is properly entered on the list; and when such is done, there is seldom any failure on our part to deliver the Bulletin regularly once each month into the hands of the citizens who wish to receive it.

"Christmas time is a very happy time for youth and early life, but those whose shadows are falling toward the west find themselves sitting in the corner reminiscing, if they have someone to talk to, or retrospecting, if they are alone. Christmas time with old age is not a happy time unless it is because of recalling happier days and better times. After all, our only friend is memory. If you will but give it time enough it will blot out things most disagreeable, and hold fast to things most cherished; even at our time of life, our childhood and youth, is redolent with the memory of happiness and irresponsibility."

—Extract from a Letter by Doctor Laughinghouse.
COFFEE WITHOUT CAFFEIN

We have been minded for a year or two to say something about the extensive advertising matter concerning coffee which is supposed to have the caffeine removed.

The average cup of good coffee generally contains something like one and three-quarters grains of caffeine. There are two or three companies in the United States extensively advertising a brand of coffee that is supposed to have had 90 per cent or more of the caffeine removed. One company sent the writer two samples something like a year or more ago, the one containing the average quantity of caffeine, the other having had the caffeine removed. The circular letter coming with the coffee requested us to test it out and see if we could tell which had the full quota of caffeine and which had practically none, something like the present craze of blindfolded test on cigarettes, you see. In the case of the coffee, we had no trouble in locating the coffee without the caffeine in the very first cup, and it is needless to say that in our opinion it was practically worthless as coffee. It was exactly similar to undertaking to drink lemonade without any lemons in it.

A recent editorial in the *Journal of the American Medical Association* states that some of the companies which have been advertising 90 per cent removal of caffeine in their products, in tests carried out by the association chemist, revealed the fact that really less than 50 per cent of the caffeine had been removed.

Right here comes our reason for mentioning these things. If a physician attending a patient has advised that patient to exclude coffee from the diet, and along comes the product advertising the fact that 90 per cent of the harmful ingredient of the coffee has been removed, it is calculated to deceive the doctor and the patient. Therefore it is easy for the doctor to give his permission to the patient to drink the "caffeineless" coffee, when, as a matter of fact, the patient would be getting about 50 per cent or more of the usual quantity of caffeine consumed in ordinary coffee.

It would be well for any patient who is suffering from any condition in which coffee is injurious, when advised by the attending physician to leave the coffee off, to carefully carry out such instruction and to refrain from indulging in any product advertised as coffee, which is supposed to have had caffeine removed. There are plenty of other drinks which may be substituted for the coffee, when coffee is harmful, which would not injure the patient and which ought to be comparatively satisfactory. The physician can suggest many things to the patient along this line.

The same truth is apparent today as it has always been, and that is that people should take most advertising with considerable qualifications, unless the advertised product and the manufacturer behind the product has an unqualified established reputation for meticulous honesty in advertising. This applies to food products and drugs especially, because such things are calculated to harm people who are deluded by a false sense of purity in such products, when the products do not come up fully to specifications as advertised.

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**TUBERCULOSIS—WHAT?**

"Now, doctor, here is sonny,
He ain't so pert, you know,
But we done heer'd you is
As good as doctors go.
We don't want no perscripshum
It ain't no good, yer see,
Not near as good as jimpshum
Or a cup of fancy tea.
You likes ter sho your larnin';
But none of hit's no good.

Them hifalutin' latin words
Ain't never understood;
What's that you're hitchin' to him?
Soundin' out his chess?
Lawd! This new tomfooletry
Ain't nuthin' but a mess!
What's that? Tuberculosis
Come sonny, git yer hat,
Yer mammy had CONSUMPTION,
But none of us had that.

—*The Thermometer.*
ADVICE TO THE HARD OF HEARING

BY

WENDELL C. PHILLIPS, M. D.

The majority of adults over 35 years of age have defective hearing at least in one ear. More than three million public school children in the United States show more or less defect in the hearing function. A peculiar psychology seems to predominate in cases of acquired deafness. Every handicap in human experience has its psychologic bearings, every calamity its woes, but none except obvious fatal diseases provokes more despair, hopelessness and depression than defective hearing. Loss of sight never depresses its victims as does a defect in hearing. The psychologic aspect of acquired deafness is the result of the more or less rapid destruction of the power of free human communication in business, society and even in the street and the shop.

In the young the waste of manpower and human efficiency resulting from acquired deafness restricts education or at least greatly adds to its difficulties. Every school child handicapped by acquired deafness, no matter how slight, must in his quest for education master the art of lip-reading. Other things being equal, the child with defective hearing who is able to lip-read is thereby relieved of much of the anxiety and strain in his efforts to hear, and is thus able to complete his education with less nerve strain. Furthermore, lip-reading once acquired remains an ever increasing source of help in the struggle to gain knowledge, to gain a livelihood and to converse with one's fellowmen.

Acquired deafness in the young restricts the choice of vocation. Many occupations in life must necessarily remain closed to the victims of even partial deafness. On the other hand, several of the most useful occupations and professions offer wide opportunity for success to those handicapped by deafness. Until recent years, acquired deafness was classed as an affection of adult life. We now know that, basically at least, it commences in early life or even in infancy; hence the importance of early detection and treatment, as well as early decision regarding the life work of these children in order to avoid the grilling experiences surrounding retraining, rehabilitation and reeducation. That this can be done is proved by the following account of a child whose case was taken in time:

A little girl's hearing impairment was slight yet marked enough to be noticed by her teachers when she was 12 years old. Lip-reading was given immediately in the educational clinic of the New York League for the Hard of Hearing, so that the child acquired a workable knowledge of lip-reading before her graduation from elementary school. Continued instruction and practice in lip-reading went on from the time when she began her lessons. Twice the parents decided to take her to quacks for treatment, but the child herself had every confidence in the social workers who had helped her and with their help her parents were persuaded to drop the idea.

Economic pressure at home made it advisable for the girl to go to high school but the League, through its employment bureau, was able to guide her into a sound vocation for which she was duly trained. She is now at the age of 17 a skilled maker of artificial flowers and she also attends evening high school. During her vocational training and the apprenticeship for her trade, lip-reading instruction was substituted for continuation school work. In spite of a marked decrease in her hearing between the age of 14 and 16, this child leads a normal life and experiences no difficulty in keeping up with the other students in high school. She is able to sustain her social life happily and has no psychologic scars induced by deafness. The means of attaining this successful readjustment.
was so simple and practical that I have no hesitation in urging parents and teachers to follow them in every case of incipient deafness. They are: (1) intensive training in lip-reading, and (2) sound vocational guidance.

**Boy's Personality Is Warped**

The slight hearing impairment of a boy of 11 was ignored by parents and teachers. At 15 he was a tired, sallow-cheeked, cloudy-eyed youth about to graduate from elementary school and enter high school. Lip-reading has been made available to him, but this assistance has come too late to be of value in the studies. A hearing aid is out of the question because his type of deafness does not respond to any known device. This boy shuns his schoolmates and resents kindness offered to him. He is developing a pugnacious attitude and is not assimilated into his home environment.

The boy's father awoke to the situation recently and set out to solve the problem. He was advised by the boy's teacher to have him transferred from the general curriculum to the commercial course. Six months have passed and this boy is still unable to make the grades. His father was advised to take him out of school and put him to work, and the boy eagerly seized the opportunity to escape from what naturally appeared to him as a useless bondage. After a year of drifting in and out of blind alleys with a work record of less than two weeks in any position, it is no wonder that he is seriously embittered. His deafness is considerable increased. He has developed an inferiority complex and a nerve disorder that makes it impossible for him to concentrate sufficiently for the acquirement of lip-reading. This is all the more pathetic because he strives desperately to become a lip-reader. Whither is he headed?

The waste of manpower and human efficiency when an adult is forced to change his occupation is lamentable. Such a change involves great sacrifice and great economic loss as a result of the retraining, rehabilitation and re-education attendant upon the preparation for a new occupation. Whenever this calamity has to be faced by the deafened adult it becomes a well nigh insurmountable barrier. Yet he must overcome it.

**Poisoned by Fatigue**

Fatigue has a meaning all its own in deafened persons. Fatigue poison, even in the most capable rehabilitated person, remains a definite problem. These persons can support their working lives only at the cost of daily exhaustion and almost entire giving up of recuperative recreation. All this tends greatly to limit the mental outlook. It is not unusual to hear overstrained deafened persons complain that they are obliged to sacrifice their entire lives—social and cultural—to the earning of a living, which carries no leisure or beauty with it.

Two examples may be cited. The first

An autumn scene at the bend of a road in Watauga—a land many times blessed by Nature.
is a school teacher in perfect health except for slight deafness. She says: "I find that all I can do when 3 o'clock comes is to go home and rest. I keep up my friendships with people of normal hearing because I must, but they never dream what it costs. Last year I even tried to take some extension course after school, but I had to drop out. After straining to hear all day, I either fell asleep at classes or else my hearing became very nervous. It seems to me that we deafened people live two days in one."

The second case is of a young man working under conditions so favorable for a deafened man that they may be called ideal. As a chemist he works in the laboratory all day and is not required to come into contact with many persons, although he has to take a limited number of telephone calls daily. He is an excellent lip-reader and also uses a hearing aid with ease. He finds, however, that it is utterly impossible for him to keep up any social contacts, because the labor of playing with hearing people takes so much out of him that he has no energy left for his professional work. He is interested in the theater but this refreshing and stimulating pleasure has also been abandoned. This man is alive to the necessity for keeping up his general health and he has a physician's opinion that outside of his deafness his health is perfect. He says: "Carrying on with deafness is such a hard job that one has no strength left to live."

I know of no parallel except possibly the almost universal unrest of the post-war period. To live in the present age is a struggle even for the unhandicapped; it is a terrific struggle even to the death for the handicapped ones. In view of the handicaps to be overcome by the deafened, it is doubly important that deafened people above all others obey the laws of health and resort to all reasonable measures to eliminate every infection from their bodies, if for no other reason than that research has not yet made their dicapped that research has not made their handicap conquerable. Happy the individual who, even though handicapped, views life in the light of the marvelous triumphs of the blind Milton and the deafened Beethoven.

**Quacks Prey on the Deafened**

Let me warn deafened persons to avoid the blandishments of all forms of advertised quackery. The qualified otologist (a specialist in diseases of the ear) with his scientific training and broad clinical experience is bound to be familiar with every procedure that offers any hope of improvement in hearing. The qualified otologist never advertises in the public press. The prayer of the deafened should be: "From much vaunted ear oils, from devious implements to be inserted into the auditory canal, from 'bunk' finger surgery, O Lord, deliver me." A good general rule for deafened people is to disregard and ignore any and all advertisements claiming to cure deafness.

Solving the problem of acquired deafness in all its phases is a stupendous undertaking. General health conservation programs have become the order of the day, and they are successful only so far as they apply the results of research. If the problem of acquired deafness in its various types and forms is to be solved, science must find its way to victory through the gateway of research. During recent years great advances have been made, particularly in the treatment of suppurative diseases of the ear, and similarly in the prevention of deafness so far as it pertains to a better understanding of infections involving the upper air passages.

Research in diseases of the ear necessitates both clinical and laboratory investigations. Ear clinics, in general, deal specifically with the treatment of ear conditions; they care only for patients who voluntarily seek relief. They are usually overcrowded and the time of the attendant must be fully devoted to the treatment of the disease. Little time is permitted for investigation. It is possible that by reorganization a good deal might be accomplished along the lines of research even in clinics of this kind.

But clinics devoted solely to prevention and research are necessary and they must be organized along laboratory lines with
full time workers devoting their entire energies to research clinical investigations. Thousands of school children have hearing defects for which no medical advice of any kind has ever been thought necessary either by parent or teacher. Such patients may never be expected to consult otologists or to visit ear clinics until deafness forces them to go. Nevertheless, these are the very children who should form a large percentage of those to be investigated under the auspices of the research clinic. This particular class of patients should constitute the chief source of material.

Several such clinics have been started on a small scale by specialists who are willing to sacrifice their time for a great cause, even without the necessary financial backing. I refer to such clinics as are conducted by the New York League for the Hard of Hearing under the direction of Dr. Edmund Prince Fowler and to the Rochester School Clinic conducted by Dr. Franklin W. Bock.

Even these small-scale clinics, a short time in existence, have shown amazing conservation results.

STUDYING DEAFNESS IN THE LABORATORY

For many years individual otologists in various parts of the world, especially men possessed of the investigating spirit, have devoted a good deal of study to the laboratory phases of deafness. These studies have been more or less sporadic and have lacked financial support. Recently, however, considerable organized effort has been made, notably by the American Otological Society and the department of pathology of the Johns Hopkins Hospital. No doubt similar efforts are being made in other parts of the world. All this is necessary, but it seems imperative, in order to advance the cause of otologic research at a reasonably rapid rate, that a world survey should be made in order that the full status of the problem may be fully ascertained and formulated. Such a survey might result in a correlation of the world efforts, and a possible standardization of the work in a manner that would not only produce better scientific results, but also command abundant financial support to cover all expenses incident to solving the problem of chronic progressive deafness.—Hygeia—

THE HEALTH MAGAZINE.

HANDSHAKING

Experiments show that bacteria are transferred from one hand to another during handshaking, sometimes to the fifth person; thus the handshake is a method of spreading disease. As the fingers are the part of the hand that usually touches the mouth, they are more active than the rest of the hand in transferring disease. The fingers of the first hand infect the back of the second; the back of the second hand infects the fingers of the third, and so on. Therefore the “take” hands in the odd numbered handshakes are likely to have the infective material on the fingers and therefore the hand of the third person is likely to be more dangerous to himself than the hand of the second person to himself; but the hand of the second person is more dangerous to those with whom he shakes hands than the hands of the third person. If transfer of infection is made to the third, fourth or fifth person, there would be a large widening of the range of infection from a patient or “carrier” as the infected person might, by shaking hands, infect those with whom he shakes hands, and these in turn infect others to the third, fourth or fifth degree.—Helen M. Matthews in Public Health Journal.

A HOME FOR AGED WAGE-EARNERS

Mr. Arthur Brisbane in his column in the Sunday American has the following paragraphs, which we take pleasure in passing along:

“Somebody, name unknown, gives $250,000 to build ‘cheap apartments for aged wage-earners.’ A good heart. To give an old man working for low wages a little room in which he can live without being dispossessed is kind.

“When this earth is civilized, old men and women, worn out, will live in apartments as good as any man’s, and won’t pay any rent.

“Real civilization will treat an old man or woman at least as well as a decent man treats a worn-out old horse.”
A nurse friend sends this photograph with the following caption:

A dear old friend of ours, 81 years old. I went over to get her picture and found her sitting on the porch reading the morning paper. She works in her flower garden every pretty day. She had come in to sit down to read the paper and rest after digging in the garden. She has been very deaf for many years. She has a decided personality, is keenly interested in all the current events. She has numerous friends in Charlotte where she has lived for many years.