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TRANSACTIONS

OF THE

NORTH CAROLINA

HEALTH OFFICERS' ASSOCIATION

FIFTH ANNUAL SESSION

GREENSBORO, N. C., MONDAY, JUNE 14, 1915

OFFICERS, 1916.

PresidentDR. D. E. SEVIER.....Asheville
Vice PresidentDR. CHARLES T. NESBITT.....Wilmington
Secretary-TreasurerDR. G. M. COOPER.....Raleigh

OFFICERS, 1915.

PresidentDR. WILLIAM M. JONES.....Greensboro
Vice PresidentDR. D. E. SEVIER.....Asheville
Secretary-TreasurerDR. W. S. RANKIN.....Raleigh

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TRANSACTIONS

OF THE

North Carolina Health Officers' Association.

FIFTH ANNUAL SESSION.

DR. W. M. JONES, President: No man or body of men should enter upon any great or important undertaking without first invoking the blessing of the Deity, so I am going to ask Dr. Robert E. Roe of Holy Trinity Church to make this invocation.

INVOCATION.

REV. R. E. ROE: Our Father, we come before Thee, in the name of the Great Physician, to ask Thy blessing upon the work of these Thy servants. We pray Thee that they may learn more and more from His life the great lessons of sacrifice and service; that they may take the results handed down to them by a noble profession and carry them on to ever greater and greater achievements. We ask Thee especially to bless this present meeting. Give it success even beyond the desire of those gathered here, that Thy name may have the glory and humanity the benefit. We ask this and every other blessing in the name of Him Who hath taught us to say:

Our Father, Who art in Heaven, hallowed by Thy name. Thy kingdom come, Thy will be done; on earth as it is in Heaven. Give us this day our daily bread, and forgive us our trespasses, as we forgive those who trespass against us. And lead us not into temptation, but deliver us from evil, for Thine is the kingdom, and the power, and the glory, forever and ever. Amen.

ADDRESS OF WELCOME.

HON. T. J. MURPHY, MAYOR OF GREENSBORO.

Mr. Chairman, Members, Ladies and Gentlemen:

It is indeed a pleasure and privilege to welcome to our city men who are engaged in the business of promoting the health of the public. We have had in the past the honor of welcoming the State Medical Society,

-----Asheville
-----Wilmington
-----Raleigh

-----Greensboro
-----Asheville
-----Raleigh

the men who have the care and promotion of the individual's health, the men who are tied to their individual patients by confidential relations and the secrets of their profession, and whose transactions and professional relations are protected by the laws of the country. But this is a new era, when men enlisted and engaged in the same line of work, men listed as physicians, are bound to the public as their patients and are bound by no confidential rules of secrecy, but are urged and inspired by the great and all-pervading policy of publicity. That very keynote, that very distinction and difference between the individual physician and the health officer, voices, I think, an uprising and upheaval and revolution in the health work of this country the results of which no human mind can foresee. For we must all agree that, in order to have successful sanitation, successful public prevention of disease, the greatest publicity should be given to any community or person infected with contagion in order to prevent an epidemic.

I was just thinking this morning how to frame my remarks to these two societies in order that I might not be guilty of taxing your patience by repeating my speech on tomorrow. I know that the great majority of this society is composed of physicians, and it has been a task for me to think what to say in these two speeches.

This idea of publicity struck me as being the first distinction, and I hope that there will not be many other distinctions, because the great benefit to the public at large—to the laity, to us, the people outside of the medical profession—the greatest thing to us and the thing we appreciate most is the privilege of being asked into your meetings and having some liberty of discussion and interchange of ideas about the subject of health. Heretofore it has been held in the secrets of the greatest physicians of this country, but today you have shot out this branch, the Health Officers' Association, that is encouraging the public by giving it the benefit of your most valuable information.

You know not how the officials and the citizenship of the cities and towns of this State, who are more subject to disease by being herded together than are the people in the rural sections, really appreciate knowledge as to disease prevention and health protection.

I, therefore, take special pleasure in extending to this Health Officers' Association the warmest kind of welcome. I bid you abide as long as you will, and enjoy yourselves to the fullest extent. It is our pleasure to entertain you, but the greatest benefit we can derive from you, and you from us, will be the serious consideration of the great policies, principles, and practices that will in the future so greatly bless our city and State. Therefore, I look to this meeting and its results as most far-

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REPORT OF THE SECRETARY-TREASURER.

Mr. President and Members of the Association:

As secretary, I wish to report that with the assistance of the president, Dr. Jones, the program which you have before you has been prepared, and we trust it will prove interesting and profitable. As treasurer, I desire to report that the total disbursements during the year have been only \$4. My report last year showed a balance of \$26 on hand June 1st. The \$4 expended for printing the programs for last year's meeting leaves \$22 in the treasury, an ample amount for the needs of the association if its expenses are not greatly increased over former years.

W. S. RANKIN, M.D.,
Secretary-Treasurer.

TEACHING SANITATION AND HYGIENE IN THE SCHOOLS BY PRECEPT.

THOMAS H. FOUST, SUPERINTENDENT PUBLIC SCHOOLS OF GUILFORD COUNTY.

There are two classes of people that always embarrass me very much when I appear before them. One class consists of the preachers, and the other of doctors. I feel myself so incapable of offering any suggestions to either class of these men that I am very much embarrassed by them.

I do not believe that any man could have gotten me to talk to you this morning except my good friend, Dr. Jones. It has been my privilege and pleasure to work in close coöperation and sympathy with him as health officer, and to promote, as far as I could, the health work of Guilford County.

This is an age of conservation rather than of cure. We have come to realize that the best plan to proceed with anything is to try to save it, rather than to try to remedy some defect after it has developed. We have come to realize that the doctor who tries to keep us well is much better than the doctor who comes along and finds us sick and patches us up. We know that every case of sickness leaves a man worse off than if he had not had the disease.

To give you some idea, and I will not be giving you anything new, but it will serve to emphasize the importance of this problem before us: I saw it stated recently that the number of deaths in this country was 1,500,000, and of that number 600,000 could have been prevented or postponed. The cost to this country of these 600,000 deaths is \$2,000,000,000. Now, when we see that the entire wealth of this country is only \$110,000,000,000, and see that we are losing each year, from deaths that could be prevented or postponed, \$2,000,000,000, or one-fiftieth of the entire wealth of the country, we see what an appalling task we have before us.

The subject on which I am to talk is "The Teaching of Sanitation in the Schools by Precept." I remember that the first man I heard talk in Greensboro on this subject was Dr. Ferrell, who is now with the International Health Commission. I was invited to that meeting because I was the superintendent of schools, and Dr. Ferrell did what everybody tries to do—put the burden on the public school teacher. When we try to organize a health movement, the first thing the doctor says is that the public school teacher holds the key to the situation. I sometimes think

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that we poor school teachers will be so burdened with these things, in which we must help, that we will forget our main business—teaching in the public schools.

Well, you are right when you say that the public school teacher holds the key to the situation. I do not mean by that that the public school teachers of this county, or any county in North Carolina, can handle this problem at all without the hearty coöperation of the medical profession. You must tell us what to do, you must teach us, and then put the burden upon us to help you carry into effect the things which you have worked out through the study of medical science. That is the problem; and I believe it is true in every county I know anything about that the public school teachers and the superintendents of schools are helping public health work more than any other class of people.

You medical men have displayed a remarkable spirit of unselfishness in leading in this movement. You have advocated this, when you are obliged to see that it may possibly, by keeping folks well, cut you out of a little fee you might otherwise get. You have been the leaders in the work, and I want to commend the spirit you have displayed.

We know that the best way to teach the child is by example. If you can show him something that will appeal to his sense of sight or some other of the five senses, that is the most effective way to teach. If we could teach public health problems to the children by example entirely, it would be the most effective way in which to reach them. But when we look at the problem, we see that only part of it can be done by example, and a great deal must be taught by precept, by telling the children.

Now, if you were to go out to a crowd of grown folks and just tell them some things about which they had little knowledge and no experience, or to which perhaps all the experience of their lives was opposed, it would not do much good. But if you tell those things to little children, and teach them daily, then your preaching and teaching will amount to something. We have a good example of that in the farm demonstration work. They go out over the country and teach the people and try to get them to change their methods of farming. Some change and some do not. But we have found that to change the farming methods of the State you must get folks whose ideas have not been formed, and teach them the correct methods.

How loath these grown folks are to change! I was standing by a peach tree in full bloom, and on it there were some mummies from the previous year. I told the man he had better take off those things and bury them, because they were loaded with the spores of the brown rot.

He replied: "My experience is that when we are going to have peaches, we will have them." You might preach to that man about the dangers of impure drinking-water, etc., and his answer would probably be: "If I am going to have typhoid, I will have it, and there is no use in trying to prevent it." But if you will take the young boy and teach him that leaving the mummies on the peach tree will destroy the future crop, you can do something with him. Of course, if you can then show him a tree properly cared for, and one improperly cared for, it will be more impressive. But you cannot teach everything by example, as, for instance, the dangers of putting pencils in the mouth, the dangers of the common drinking cup, etc.

Now, it seems to me that the problem we have before us is to get our public school teachers thoroughly interested, for if you get them thoroughly interested they will find a way to teach the children. The books have already done a great deal of good; and in those counties where there are whole-time health officers who will interest the children in this subject, we are going to do a great work in the saving of that \$2,000,000,000 annually to our people. It seems to me that this problem could be solved by close coöperation between the public school teachers and the public health officer, who will visit the schools and talk to the children; and in talking to them he does more than that, for he talks to the teacher and shows her what kind of work to do with these children. I believe the greatest opportunity you gentlemen have in this work is through the public schools. You can do something among the grown people, but not much, and if we solve this problem at all we must do it by appealing to teachable children.

Of course, home would be the best place to do this, instead of the school, where the teacher has charge of the children for only a small part of their time. But here is the difficulty: How many people are able to give their children such instruction? Unfortunately, very few, and we cannot have this work done in the home until we have a generation of grown people who have learned these things in the schools.

One of the best illustrations of this fact that I know of is the prohibition movement. That did not make much headway until it had been taught in the schools long enough to have voters who had been taught there that alcohol is detrimental to man.

Tell the school teachers what to do, and I can guarantee that, so far as they can, they will carry out your instructions.

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TEACHING SANITATION AND HYGIENE IN THE SCHOOLS BY EXAMPLE.

DR. CHARLES T. NESBITT, HEALTH OFFICER OF WILMINGTON AND
NEW HANOVER COUNTY.

The subject of the instruction of children by example in the schools is one in which I have had a very considerable interest. I do not know that I could do better than merely relate what we have been trying to do in our own county, and the obstacles that we have found there, and the things which were necessary to overcome.

The avenue to teaching public health work and sanitation by example is directly through the board of education and the superintendent of free schools. Nothing can be done until you can get the ear and the sympathy of this board. A survey of the public schools of any part of our State would show that very little attention has been paid in the past to the importance of example teaching in the public schools. When we first examined the public schools of New Hanover County we found every possible deficiency, I think. There was insufficient light, insufficient desk room, insufficient floor space, insufficient breathing space. Sometimes there were swamps in the immediate vicinity. Sometimes we found the wells polluted. The habit was to build a house with a woodshed on one side and a closet on the other. These closets were never cleaned, the excreta being left there from year to year. The school-houses themselves were not clean.

When we went into the county work, as the law requires, we made an inspection of the schools of the county. We refused to certify any school in the county as sanitary, and this coming year is the first that we can certify any schools outside of the city of Wilmington as sanitary. A number of them are brand-new buildings. Some of them have not been built in accordance with public school architectural practice. In one school for the negroes we recommended the right interior painting. When we went to inspect the school, we found that the ceiling had been painted a very dark slate color. There were cross lights—light from both sides. The seating was without reference to the light or to the size of the children. The board of education is rather an aristocratic body, and it is very difficult to approach them.

I do not know whether New Hanover County has the same laws as the others. It has some special school laws, I think. Any attempt to change them meets with intense resistance. The superintendent of pub-

lic education is a member of the county board of health, and it is exceedingly difficult for him to adjust his relationships.

After having published in detail the criticisms of the schools of the county, a bond issue for \$175,000 was voted, and things began to improve. Some of the schools have been provided with deep-water supplies that are free from pollution; others still are provided with shallow pumps. All of the schools, for both white and black, have concrete L. R. S. closets, with effluent distributing systems.

The child is taught to look upon the school as the place where he must naturally turn for guidance. If he finds a dirty, badly lighted, ill-kept room, a place where he is uncomfortable, it will be pretty difficult to get into his consciousness anything that will be for his well-being. Afterward, when he grows up, he will wonder how any one had the nerve to talk to him about sanitation, and teach him in such a place. The most important way in which sanitation can be taught will be in a well built, well lighted, well kept schoolhouse; a well heated schoolhouse, provided with adjustable desks, one where the desks will be placed rightly in relation to the lights, one with no blackboards between entering lights. Sometimes we found that the blackboards were placed in accordance with the teacher's comfort. Now, the eyes of all these little children are more valuable than the eyes of one teacher.

If the child finds that small things of that kind are taken into consideration by the board of education, he will have respect for their judgment and will look up to them. If the teacher is impressed with the fact that she can use the ordinary furniture of the room, its location, the color of the wall, the seats, the floor, everything in the room, as examples from which to teach sanitation without reference to any textbook; if she can tell them how the things are situated, and why; if she can go further and find clean grounds, a perfectly sanitary privy and water supply, she will have all the text she needs to carry her pupils through a long course of instruction.

So far as personal cleanliness is concerned, I have been in some schools where the teacher was not making any great effort to make an impression of personal cleanliness. I know that it is not easy to keep immaculately clean in a dusty room, but the teacher herself can keep clean. When she comes in contact with anything likely to soil her hands, if she will immediately wash her hands, it will be an example to the children. If the children are not permitted to become soiled and stay soiled, it will have a very beneficial effect.

You all know that one of the greatest dangers in our schools is the droplet infection that comes from the nose and throat. I have seen a

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reaching. The meeting of tomorrow will be great, and its deliberations far-reaching, but I look to this as the beginning—this organization but five years of age, as the greatest work the Medical Society has ever fathered or visioned: this work of communicating with the public, taking it into their confidence, warning the public of the disasters, the terrors, and dangers of disease, and at the same time informing it of means of prevention, thereby saving the public in the end.

I have not the time nor the information to go into any detailed discussion of principles and practices; that I leave with you. We hope to be benefited by your professional knowledge and your expert suggestions along these lines. We think that Greensboro is especially fortunate to have you meet within her limits, and we expect results most far-reaching and most beneficial from this meeting. However small in number, we think the power put in motion here for the conservation of humanity will exceed that of any meeting in many years. Though few, I see that you are in earnest and full of zeal. Even the laymen here have impressed upon me the idea that your association may look into the future with gleaming eyes of hope and confidently rely upon the realization of your fondest dreams.

RESPONSE TO ADDRESS OF WELCOME.

DR. B. K. HAYS, Oxford: We are not perfect strangers in Greensboro. We feel that we are fortunate to be here. We appreciate the hospitality extended to us, and the kindness of his Honor, the Mayor, in coming before us and giving us this cordial welcome. We are the ones to be felicitated on being here. We wish to thank him, and we wish to thank the citizens of Greensboro.

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In one of our mill communities we had an epidemic of smallpox, mostly of a mild type, but there were some few serious cases, and the people began to get waked up and get vaccinated, and the disease was thus controlled. Then the superintendent of a manufacturing and industrial establishment, in another direction, called me up and reported a case, and asked what was to be done. I recommended vaccination, and he asked me to come over and see him. A lady over there advised her superintendent to require the people to be vaccinated or to leave her employment. This was done, and ninety-six people were vaccinated the next day, and no other case developed. Smallpox can be controlled by vaccination.

As to the reporting of contagious diseases, the physicians report the cases to me. In two instances during the last year it has not been done, but letters to the physicians brought the reports.

DR. J. E. MALONE: I almost wish sometimes that some one with smallpox would die in a community. It would be a great object-lesson. People say of smallpox, "They don't die," so I wish sometimes we would have a death from it, in order to convince them of the importance and the immunity they receive from it, that is, from smallpox, by vaccination.

The people are instructed how to handle stagnant water and mosquitoes. The sheriff of the county loaned me about ten convicts and I had all the ponds in and around my town ditched, drained, or filled up. The people in the country are advised to do likewise. We are trying to introduce the sanitary privy into every home in the county.

DR. M. T. EDGERTON: In regard to the value of vaccination, we had one example that was conclusive. In a camp of fifteen men about one mile from town there were about eight cases of smallpox. Not one who had a good scar contracted the disease. Every one, except one, who did not have a good scar did contract the disease. They all slept in a camp together.

While it is true, as Dr. Reynolds says, that the tubercle bacillus will die in a few hours in the sunlight, still it will live for months in dark, moist places.

Dr. Reynolds says we have to fumigate for its mental effect. It seems to me that the most important thing is to see that there are no bacillus carriers among the family. The disinfection of the house, the unnatural habitat of the diphtheria bacillus, is only of secondary importance, while the throat, the natural habitat of the diphtheria bacillus, should give a negative culture before quarantine is removed.

dark room any longer than diphtheria. Phthisiphobia is due to the rigid rules we have enforced about tuberculosis, because tuberculosis is a chronic disease. We have it a long time, and we have to fight it all the time. I do not believe we are accomplishing what we should, and I think we have gone too far in the fear of tuberculosis. If we teach people to fear, not the patient, but the sputum, we would not have so much trouble in the eradication and control of tuberculosis.

DR. NESBITT: In dealing with the negroes, among whom we find much of our tuberculosis, we teach them that the danger is in the contaminated thing and not only in the patient. We teach them to scrub everything impermeable and to remove everything that is infected.

DR. RANKIN: I think everybody knows that I pin my faith to vaccination for the control of smallpox. I do not believe in quarantine, not for a second.

Some time ago I heard some criticism of one of the whole-time county health officers. He was criticised for spending so much money last year. He spent, I think, some \$6,600, which was the total cost of the health work in that county that year. I spoke to a friend of mine and asked him if he did not think it was too much. This friend of mine investigated, and he found that this health officer had been compelled by the people of his county to spend over \$3,000, almost half of his expenditure, for quarantining smallpox—putting it in the pesthouse.

DR. E. F. STRICKLAND: We had some trouble in Forsyth County during the past winter with smallpox, and we let it be known positively to the public, by newspaper publications and by placards in the communities which were infected, and by visitation, when necessary, to infected sections, that the only relief the people might expect was through vaccination.

A minister called me up one day—a young, very highly educated and popular minister—to tell me that a man known to have smallpox was going about on the street cars and into the stores, and he said the situation was distressing, and that he knew I could not have heard of it. He wanted to know what he could do about it. I said, "Be vaccinated." He said, "You don't mean to say that that is an absolute protection?" I said, "Yes." He said that he could put his hand on people who had been vaccinated and who had had smallpox afterward, but he could not tell me where they were. He said, "But some people are opposed to vaccination; some have lost their arms through it." I asked him where. Again it was a long way off. Well, that man and his wife were vaccinated a few days later, and just a day or two ago he came into my office to take the typhoid vaccination.

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a minimum law, providing minimum regulations to be carried out, throughout the State, and then allow the counties to increase that as they see fit, it seems to me that such an arrangement would be a great step in advance.

Different counties throughout the State vary in opinion in regard to the governing and control of smallpox. Personally, I believe that you cannot control smallpox unless you have vaccination—not voluntary, but compulsory—and also have positive and legal control of the case infected. I do not suppose that the laity is sufficiently aware of the importance of vaccination, or at least the inborn desire to postpone and procrastinate deprives us of the control of smallpox. I suppose you are all aware of the epidemic at Niagara in 1912, 1913, and 1914. In this place the city officials, the city attorney, the mayor, and the people were antivaccinationists. They did not require vaccination, and the people did not become vaccinated, resulting in five hundred cases of smallpox in one year. Not until the State authorities threatened—and I believe they placarded the trains going in and out of Niagara, forbidding passengers to get off or on unless vaccinated—did the people begin to recognize the economic loss and enact a vaccination law and enforce it. After that, they stamped out the epidemic in three months. Eighty-seven per cent of the people that had the disease in Niagara had never been vaccinated. Doctors are like other people—procrastinators. I dare say that if you would ask in any gathering of doctors how many had been vaccinated during the last five years, not many would say they had been.

We are vaccinating the school children in our county, and I am glad to say that we have not had a case in five years, except imported cases.

I cannot see the wisdom of educating people to the value of fumigation, that there is a germ there which will produce disease, and that unless fumigation is done they will have the disease, and then immediately turning around and saying that the germ is dead when the patient is recovered, even though thorough investigations have been made. I know that you can have three or four strings in a room in a culture solution, and some will have dead germs and some living. We do not know how long they are going to live. We do not know who will enter the room. But we do know that if the germ is there, fumigation, if properly done, will destroy it. To carry out the instructions of the New York authorities without fumigation is certainly more expensive than fumigation. I believe that if we have the case in room quarantine, and have a sheet dipped in bichloride of mercury and hung before the door, it will have its effect upon the family.

I do not know why we take such rigid measures with the tubercle bacillus and not with others. We do not know whether it will live in a

We are not having very much malaria in New Hanover County now. It has been a reportable disease for about four years. Dr. Wood told me the other day that he had been making routine blood examinations for the last three years, and in that time had found just three demonstrable cases in his practice.

We have gone a little further with the disinfection problem. Most of the disinfection we do is done to satisfy the public. We have an officer for that work. His instructions are to go into the house and himself supervise the cleaning of the sick-room. He is to see that everything is turned out and the room thoroughly scrubbed and cleaned. Then, if the people of the house desire it, to satisfy them, he will fumigate. We dispense with the fumigation in many diseases, even in tuberculosis.

We put all cases of diphtheria under laboratory control, first for diagnosis and second for quarantine. Inside of sixty days after this ruling, with the making of a good many negative examinations, the diphtheria incidence dropped 50 per cent, and since that time it has dropped much more. There was error in diagnosis.

We have gotten the negroes so much afraid of tuberculosis that they are perfectly willing, when necessary, for us to take everything that has been in the room—mattress, bedding, towels, etc.—to the incinerator and burn it. We have a little tuberculosis hospital, and when we hear of an indigent tuberculosis patient we take him to the hospital and clean the house just as though the case had terminated there.

DR. J. R. McCracken, Waynesville: I would like to ask Dr. Rankin what would be the instructions of the State Board of Health in regard to handling cases of acute cerebro-spinal meningitis.

DR. RANKIN: In answering requests of that kind that have come in in the past few years, we have sent the pamphlet of the United States Public Health Service on that disease. The most interesting thing about that pamphlet is the acknowledgment of the author that practically nothing is accomplished by isolation.

DR. R. M. KING, Concord: We had quite a little smallpox in Cabarrus County. There was no compulsory vaccination, and of course it has spread. The only thing I see for it, of course, is vaccination. Quarantine does not amount to anything.

DR. C. V. REYNOLDS, Asheville: The first thing that I believe we should have is *unity of laws*. One county being allowed to do as it pleases, while another has laws and regulations governing the control of contagious diseases, at least works a hardship upon the county in which the law is carried out. If the State would have what might be termed

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have spent a great deal of time on it, and have worked out a full set of regulations, and will be glad to advise any health officer who wishes to consult us.

I do not advocate fumigation after measles, whooping-cough, or diphtheria. We do advocate a thorough cleaning of the room.

We recommend formaldehyde as the routine disinfecting material, except when you want to kill insects. Then you use sulphur, except in a room with carpets, pictures, etc., in which case hydrocyanic acid should be used. But the health officer himself has to disinfect with hydrocyanic acid.

DR. CHARLES T. NESBITT: We have been able to attack the problem of morbidity reports in this way: Every house in the county is visited once each month; every house in the city twice each month. It is the duty of the inspector to learn what illnesses have occurred in each house, and it is his duty to bring in the name of every case of contagious disease that has occurred, together with the name of the attending physician.

Dr. Rankin has spoken of indicting physicians. Any health officer who has had to do with the courts will learn very quickly that the courts consider health regulations as matters not of primary importance, to say the least. If you have a court of first instance, such as we have, you will find that each official has his ties, his political obligations, and he has his hampering influences. The people themselves are inclined ordinarily to view the health regulations as matters tacked onto the penal code and not of great importance. We have had quite a bit of experience in that line in preparing for prosecutions. In these courts of first instance the defendant has the right to ask for a jury trial, and it is exceedingly hard for a health officer to get a man convicted by a jury. The health officer will have to make up his mind to do without the help of the courts as much as possible in his work.

In one case a physician was prosecuted for not reporting births. He said in court that he did not propose to violate the confidential relations existing between himself and his patients, and walked out. Physicians have arrogated to themselves considerable freedom from ordinary human limitations, and we health officers will cripple our influence if we try to enforce sanitary laws by indiscriminate prosecutions. Very rarely you will find a physician who will refuse to report cases of contagious diseases. If you will ask physicians about cases in their practice, they will get into the habit of calling you up. They will not write you, but they will call you up on the telephone. In that way we get the name and address, and send our inspector back to the house and get the rest of the information. We usually get a pretty full report on these diseases.

Dr. Cooper has spoken of the reports he got through the teachers in the schools, and through the school health officers. Now, there is still a third way which has been worked out, and which I think is capable of producing results. In two or three or four newspaper articles state to the people the importance of reporting contagious diseases and the need of physicians reporting. Say to the people that in the county paper, at the end of the month, you will publish a list of the names and addresses of the cases of measles, etc., for the preceding month. Tell them that if they know of a case not reported, and they will report it, the health officer will see that the penalty is enforced. If a man is interested in health and will report one of these cases, giving the name of the physician treating the case, the health officer will prosecute him. I think the health officer should go before the medical society and tell them that the first time a case is not reported he will write a letter calling attention to it, but in case of a second violation he will indict the physician responsible. You have to prosecute occasionally.

These three ways that have been mentioned—the report by the school teacher, the report by the pupil, and the report through the newspaper—will be of great assistance. Of course, in case of a prosecution, the name of the informant will not be given.

In regard to rural disinfection, Dr. Glenn referred more particularly to disinfection after typhoid fever. I wish to speak about disinfection after the contagious diseases. I believe the best municipal officers in this country have stopped fumigating after measles and whooping-cough. The health authorities of the city of New York stopped disinfecting after diphtheria because they proved, after a very thorough examination of the articles in the room likely to be infected, that when the patient was well the bacteria were dead, *i. e.*, when the germs had died in their natural host they had also died on articles in the room.

This leaves disinfection only after scarlet fever. We are recommending to county physicians who consult us that they get six or eight large lard cans, six or eight packages of formalin, and gummed tape, and leave these articles with a druggist, so that the people can get them whenever the county physician or health officer is away. Let it be known that when a person has a case of scarlet fever in his household he can get this fumigating outfit. With it goes a little booklet of directions. We believe it is a good plan to leave them in the drug store, because the health officer might be away and some one come in from the country to get the outfit.

The State Board of Health has spent a great deal of time on the subject of rural quarantine. There are no books to be found on this subject. It is new ground, and you have to work your own way through. We

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Health power to make these regulations, as is the case in some States. It seems to me that if the State assumes the responsibility of drawing up the directions, it takes also the responsibility of enforcing its directions.

If I lived in a rich State like Massachusetts or Pennsylvania, or if I lived in a State with a large immigrant population—a population accustomed to a centralized form of government and more amenable to it than the people of this State—then I would advocate a State law for the control of these diseases.

It seems to me to be a fundamental principle of administration that the government which enacts a law should see that it is enforced, and that one government should not enact a law for another government to enforce, where the people insist upon local self-government. Why, if we should go into the General Assembly and ask them to enact a law for the control of measles in Guilford County, I do not believe they would enact it, notwithstanding the excellent representatives that county has sent there. They would say that the people of Guilford could enact their own laws.

Perhaps you will say that the State ought to enact the law and enforce it. But have you ever estimated the cost of controlling 10,000 cases of contagious diseases, scattered over 52,000 square miles of territory? I have estimated the cost, as nearly as I can, and it would be \$50,000 a year—as much as we are spending on everything.

Under these circumstances, what does the State do? She says to the county, "We give you power to do anything you wish for the control of these diseases." I think that, under the circumstances, with the present economic condition of the State, and with the population she has, this problem is today a local problem. It may some day, when the State is wealthier and the people are willing to form a more centralized government, become a State problem, but I do not think that it is a State problem now.

It is a very easy thing to check a State government or a county government or a town government on its contagious disease control, or its morbidity reports. Of course, if the contagious diseases are not reported, the control of those diseases is worthless. How can you tell whether they are reported? Let us take Wake County. Say that last year there were 35 deaths from these diseases. Then, roughly speaking, there should be 350 cases. Suppose we go to Dr. McCullers' books and find that he has only about 100 cases reported. Well, he certainly did not get all the cases reported, because the combined fatality of the four diseases is 10 per cent, and every time there is a death there should be ten cases reported. You can easily check a health officer by checking his morbidity reports with his mortality reports.

getting accurate and prompt reports. The plan that Dr. Cooper suggested is certainly a very admirable one for the length of time that the schools are in session. We have virtually the same plan, except that the report is not made in exactly the same way. We leave stamped, addressed post-cards with the superintendent of every school, and as soon as he hears of a case of contagious disease he makes a report at once to the county board of health.

As to getting reports from physicians, I think the thing that has helped me the most in that way is a one-cent stamp. It is not the money value to the physician, but the fact that the post-card is ready. If they have a self-addressed, stamped post-card, they will make the reports much more promptly than when they have to hunt one.

In some schools in this county the teacher is on the roster of another county, and receiving half her salary from each, and the pupils may come from four counties. In such cases we have a good deal of trouble in making reports.

As to notifying the public, I find that in some cases the public gets the information before the physicians do. Where there is only a local special law, unless there is something to urge him on, the physician will not have the same respect for it that he would have for a State law. It is the same way with Federal and State laws. A State law will do more than a county law; so I think that some State law, to act as a support and to stand at the back of the county laws, will help in getting accurate morbidity reports.

DR. W. S. RANKIN: There are several interesting suggestions which come up in the discussion of this symposium.

The most fundamental principle touched upon by those who discussed this subject is the principle of whether the State or the county should control the contagious diseases, that is to say, whether it is a State problem or a local problem; and the question comes up as to whether it is part State and part local.

Dr. Jones, I believe, advocated the adoption of a State law for securing such reports. He did not state how the law should be enforced, but I presume he meant that the county should enforce the law.

There are about 10,000 cases of the four contagious diseases in North Carolina each year, that is, cases of measles, whooping-cough, scarlet fever, and diphtheria, with about 1,000 deaths. So there are about 100 cases in each county each year.

As to the control of these diseases, suppose we say that the State should enact the laws. The States does so, writes the directions and puts the penalties where they ought to fall, or else gives the State Board of

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The expense of smallpox quarantine is enormous. The benefits are largely imaginary. When the millennium comes we will have compulsory vaccination, and smallpox will be of only historic interest.

After all, the handling of the infectious diseases depends largely on the personal sagacity and tact of the officer in charge. The training one gets as a health officer is an excellent training for the diplomatic service.

DR. L. N. GLENN, Gastonia: I take it that rural disinfection would have to do largely with disease-bearing refuse, either from sick individuals or elsewhere. It is customary in my county for the physicians to instruct, as far as possible, those of the family in which we have sickness in which disinfection is necessary, in the essentials of such disinfection, and as a rule we have very little difficulty in having such disinfection carried out. For instance, typhoid is generally guarded against by having the stools disinfected with quicklime or bichloride and having them carried out through the usual sewer systems, or, where this is not possible, having them buried with particular reference to the danger of contaminating water supplies near by. If there is any danger of polluting drinking-water, this is explained to the family and vigilant efforts are made to prevent the contamination of water supplies.

Slaughter-pens are frequently visited, and care is taken there to guard against the same thing. The topsoil from pens is frequently carried off and buried, after being treated with quicklime.

We have had trouble in some two or three cases in enforcing these regulations. Occasionally a man takes a contract in some town to carry off the excreta where there is no sewerage, and he frequently takes what seems to him the cheapest method. In such cases we look into the matter and see that the matter is treated with lime and buried.

I think if we could educate the people about such things and create a sentiment among the rural people in general, our work would be minimized. In my county, I am glad to say, most of the people are fairly well informed about such things, and very little of this contamination can take place without a layman notifying the county health authorities. We have very good coöperation on the part of the public, and we have it largely because the public is becoming wonderfully enlightened about such matters. We feel that our future is much better than our past in so far as coöperation on the part of the public is concerned.

I think if you would enlighten the public in regard to these matters, and in that way obtain their coöperation and support, the work would become much less difficult.

DR. WILLIAM M. JONES: I have had some experience in trying to obtain morbidity reports. I realize the necessity of the health officer

During my first month's stay in Pitt County we operated under the above rules. During this time we had about fifteen cases of smallpox in the town of Greenville. Several of the persons affected were some of the most prominent people of Greenville. The prominence of the people affected attracted considerable attention, and consequently about 1,400 people were vaccinated against smallpox. A thorough vaccination was carried out in the white and colored schools, with a result that only one very mild case of varioloid occurred among all the school children. The continued spread among the unvaccinated led the board of aldermen of Greenville to pass a quarantine regulation under the direction of the health officer and at his discretion. A compulsory vaccination law for the entire neighborhood where smallpox was existent was also passed. This has been in operation for about one month, with a result that while no new cases have occurred in the vicinity of the known cases, still isolated cases have continued to occur all over town with clock-like regularity, in spite of the large outlay that the board of aldermen have made in supplying food and wood to the colored population of the town. Some of those quarantined absconded after obtaining a week's board from the town. Others were more politic and remained indoors during the day. The board of aldermen were surprised at the way the bills mounted up, and they will be more surprised when they find out what little effect it has had on the spread of the disease.

Before I had had the above experience I had read about States abolishing quarantine laws as being ineffectual in the control of smallpox, and about the value of vaccination, but the above experience has firmly convinced me of the futility of trying to control smallpox by any other means than vaccination. However, my personal feelings about the matter will have to yield, for the present, at least, to public sentiment in Pitt County. A large number of people in Greenville believe in quarantine for smallpox, and I am afraid this is true in most of the towns of the State.

This being the case, probably some form of quarantine regulation will have to be adopted in the towns of the State to appease public sentiment. Along with this, some form of local or general vaccination ordinance should be passed, so that people will not rely on quarantine.

In Greenville the details of the quarantine are left to the health officer. I have been quarantining the patient and only those people in the household who have not been successfully vaccinated or who have been exposed to the disease longer than three days. If a person will submit to vaccination within three days after exposure, then he is not detained. I have consistently vaccinated everybody in the same block where smallpox has been, with no smallpox resulting.

The expense is largely imaginary. After all, the personal gets as a benefit.

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This gives you the general plan of procedure and some of the most salient features of the system under which we are operating. As regards the duration of the quarantine in the above diseases, it would seem that each case has to be treated on its individual merits.

In Rhode Island, where there is quarantine for whooping-cough, the time is set at twenty-five days as a minimum, or until the "whoop" has disappeared.

In the case of measles, two weeks is the period fixed in Illinois, while Rhode Island raises the quarantine one week after the appearance of the eruption.

In the case of diphtheria, the tendency is to cut down the length of quarantine. The best method, of course, is to obtain two negative throat cultures from the patient on successive days. Where this is impracticable, probably ten days after the disappearance of the membrane is safe in most cases.

Scarlet fever is usually quarantined three to five weeks in the different States. The twenty-eight days period of Rhode Island, with freedom from nasal and aural discharge, is probably a safe limit.

Can these infectious diseases be handled from the office of the county health officer? It is theoretically very simple to mail out suitable placards, regulations, and literature for the different diseases, and if this were effective the health officer would have more time to devote to more important matters. My personal experience has convinced me that a personal visit by the quarantining officer is necessary to get the coöperation of the parties quarantined.

When people are to be confined to their premises for weeks they want to know the whys and wherefores about all the details of the quarantine. It would be interesting to ascertain whether this is a provincialism of the people of Pitt or whether this is generally true.

SMALLPOX.

The handling of the smallpox situation in this State probably presents more interesting features than that of any other of the infectious diseases. Fortunately or unfortunately, we have had a rather rich experience in this contagion, both with and without quarantine, and can speak with some feeling on many phases of the situation.

As proposed by the State Board of Health in their rules and regulations, the only measures carried out in the management of smallpox are to placard the house, exclude all children from school who have not been vaccinated, notify the public through the press of the existence of the disease, and urge all to be vaccinated.

whooping-cough, measles, diphtheria, scarlet fever, and smallpox within twenty-four hours after diagnosis. If there is any suspicion that this has not been done, the health officer is required to visit the case himself, and the parent or householder is also held liable for concealing any contagious disease. The public is notified through the press of the existence of a contagious disease in the community. A general school census is taken of those children who have had vaccinia, whooping-cough, measles, and smallpox, as well as the families where there are children under 2 years of age. This last information is obtained on account of the great fatality in the young infants in the case of whooping-cough.

TYPHOID FEVER.

The health officer instructs the householder as to proper precautions to prevent spread of the disease, while he himself tries to ascertain its origin. The householder is not allowed to sell any food which is usually consumed uncooked, and is compelled to disinfect all excreta from patient.

WHOOPING-COUGH, MEASLES, DIPHTHERIA, AND SCARLET FEVER

are all handled in the same general way. Under each disease there is a definite set of rules governing the health officer, and another set of rules governing the parent, while the teacher of the school affected is also given definite instructions as to what course to follow when the disease is present in the school.

The health officer sends a placard, a set of rules, and suitable literature on the disease in question to the parent, as well as additional literature to the school recently attended by the child, for distribution to the children who have recently been exposed. Publicity as to the existence of the disease is also given through the medium of the churches of the community.

The children affected or who have never been affected are quarantined in all four of the above mentioned diseases. In the case of measles and whooping-cough those children who have had the disease are permitted to continue their attendance on their school duties. In the case of diphtheria and scarlet fever all children in the household are excluded from school. In all cases the child affected is isolated from the other members of the household and is not allowed to leave the premises. All linen which leaves the household is first disinfected.

No teacher is permitted to continue her school duties while residing in a family where any of the above four diseases is present. The teachers are asked to distribute suitable literature to the school and to exclude all suspicious cases from school.

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The question is an important one, and until systematic, prompt reports are available for the health authorities the year around, the work of disease control and prevention must remain at best imperfect and far from satisfactory in the rural sections and small towns.

THE PROBLEM OF CONTAGIOUS DISEASES: WHAT TO DO WITH THE REPORTED DISEASE.

DR. M. T. EDGERTON, JR., HEALTH OFFICER, PITT COUNTY.

Mr. President, Gentlemen of the Association:

The State of North Carolina has no laws for the control of the contagious diseases, and only a very few of the counties have taken any very definite steps along this line. The absence of any definite State law, together with the lack of uniformity in the county rules now in force, has suggested the possibility that a discussion along this line might lead to some definite set of rules which could be adopted generally throughout the State.

In the handling of the contagious diseases in Pitt County we have used the rules and regulations suggested by the State Board of Health, and since, so far as I am aware, these rules have been adopted in only five counties, it might prove of interest to state the general nature of the rules and then discuss what our experience with them has been.

If North Carolina could formulate some definite State law for the handling of her contagious diseases she would be far ahead of her sister States, which have no laws whatsoever for some of the most fatal contagious diseases, and what laws there are in the different States are very much at variance with one another.

In a study of the State health laws in ten of the other States it is found that only one State has a quarantine law for whooping-cough, and in only five is there any cognizance taken of measles. All but one had some form of quarantine regulation for smallpox, while practically all had some definite regulation for diphtheria and scarlet fever. Typhoid was reportable in only two of the States studied.

The idea of the State Board of Health in formulating these proposed regulations was to facilitate and still effectually carry out suitable measures for the proper control of the infectious diseases.

The general plan is to handle the infectious diseases through the family physician. Under general rules, every physician in the county is required to report to the county health officer all cases of typhoid fever,

and the efficiency of the schools; the board of education is charged with getting the most out of its appropriation, but while, of course, there is this great variation in the viewpoint, there never has been any friction between the two boards in New Hanover County.

New Hanover County is very fortunate, I think, in having a compulsory vaccination regulation. All school teachers and pupils, and all janitors and others who work in or about schools, are obliged to be vaccinated. The school children are examined, and we accept no certificates of vaccination except the scar of a successful vaccination. In that way we have kept the county practically free from smallpox, except for occasional cases from other counties. In winter we have an influx of negroes from other counties to work about the wharves and cotton presses, and now and then we have a case of smallpox. We use each case as a reason for vaccinating everybody in the neighborhood, and usually each case is the means for vaccinating two or three hundred people. In that way we get around over the county pretty well. The case, of course, is isolated. We use both measures very rigidly.

Dr. Hays wanted to know about the methods we use in the schools. In our county we do a great deal of personal instruction in the schools. Dr. Thames does most of that work. In addition, we have organizations of mothers, and we make stated visits to the schoolhouses and try to make the school a sort of community center from which beneficial influences radiate. We get the mothers interested in discussion among themselves on how to care for their children. The teachers are very carefully instructed, and in giving that instruction we lay some stress upon the possibility of the teacher's being infected from the children. We find that a good thing to do. We impress upon them that with plenty of air and sunlight and the use of the handkerchief there is little danger. We teach them to look for the signs of approaching illness, flushed face, bright eye, etc. We tell them, when they notice these signs in a child, to send that child home at once and to report to us, so that we can look it up and see what is the matter with it. This year we are putting in nursing service in the schools of Wilmington, and Dr. Thames and I will probably supply a good part of the medical work, in addition to the other work, and also try to keep up the work in the country schools.

Guilford, I think there was not a single school in the county that had individual drinking cups or sanitary fountains. Now at least 80 per cent of them have either drinking cups or sanitary fountains. The children bring cups from home and keep them at the school.

Dr. Strickland spoke of a teacher that would not be vaccinated, and wanted to know what we ought to do. Smallpox broke out in this county. A teacher laid down the law to the children in her school; told them that if they would not be vaccinated she would quit the school. Dr. Jones went over there and vaccinated the children. Then he turned to the teacher and asked her to submit to vaccination, but she said no, and she would not. So we left. On Monday morning I got a telephone message that she had left the school. The people got after her for making the children submit to vaccination and not being vaccinated herself. Now, I have thought over that incident, and if that teacher is employed by a committee this year, I shall veto the appointment.

Dr. Nesbitt spoke of the county superintendent's being between the devil and the deep blue sea, because of his interlocking relations. I hope I am not in that position, and I am a county superintendent. If a single suggestion has come from the health officer which has not been approved, I do not know it. The board of education has not only sanctioned his requests, but has done all it could to further his work. This problem depends too much on the joint sympathy and action of the two boards, and I hope the conditions in New Hanover will be remedied. I can see this, that the board of health might ask for a great big appropriation that could not be given, and the board of education might be obliged to scale it down. But if the board of health knows the financial condition of the board of education, and knows that that board is working in sympathy with it, they ought to get along all right; and if they do not, something should be done to get them together.

Dr. NESBITT: I did not mean to convey the impression that the board of education and the board of health in New Hanover County had been indulging in controversies of any sort. The results prove that the boards have been working in harmony.

In speaking, if I remember correctly, of the superintendent of schools being between the devil and the deep blue sea, I was speaking very broadly of the conditions throughout the State as created by the statutes, and of the possibility of a man's being in that predicament. In our county we have gotten on very well. It has been possible to make a great many improvements. There is, of course, a viewpoint quite at variance between the board of education and the board of health. The board of health is insisting on changes necessary for the health of the children

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ern or southern section of the same county. In almost adjoining townships you find such a difference in sentiment. Well, I visited this school. There had been a case of smallpox two miles from it, and so there was some cause for uneasiness. There had been no cases near the other school. I gave a talk on sanitation and health, and at the conclusion asked those in the school to be vaccinated. It was a one-teacher school, and I think there were about forty or fifty pupils present. I told them of the dangers of smallpox, and of the absolute safety in vaccination, then asked how many had been vaccinated. Not a hand went up—not a hand. I told them there was smallpox not far away and that there was danger. Then I asked how many would submit to vaccination. Not a hand went up. I saw that the children's eyes were fixed on the teacher, and that caused me to turn to him. I asked if he had been vaccinated. He said he had not. I asked him if he would allow me to vaccinate him, and he said, "No, not today." "Well," I said, "there is not much hope of the children's being vaccinated. I have done you all the good I can, except to say that I hope that you will clean up this schoolhouse and get it looking a little better. There are a good many papers around, and that is dangerous." Then I bade him goodbye and left.

I have thought of the conditions there a good many times since then. I spoke of the matter personally to the superintendent of education, and I have spoken of it to the board of education. I asked them what they thought of that teacher, and they said he was a good teacher. Somebody said recently that he is all right in politics, and is a pretty good fellow. I said that I did not think he is fit to teach school—public school.

Now, will the boards of education continue to recognize the certificates of persons to teach in the public schools who are so derelict of their duty and so utterly unmindful of the common laws of health and of the sanitary conditions that should be the environment of every school? It is a question; it is a problem. A man is not licensed to practice medicine in North Carolina unless he can give other evidences of substantial character and qualification than that of answering a few questions put to him on the day of examination. I believe this should be so with other public servants. I believe the county boards of education and health should get together more closely and work together more harmoniously for the safeguarding of the public health and of the health of the children. It is time thrown away for us and for the pupil and all concerned when there is not a satisfactory understanding in the matter of the employment of coöperative teachers in the public schools.

PROFESSOR FOUST: I have only a word to say. Dr. Hays asked for examples, and I can give one. When the health work was started in

ing, and fishing. They have opportunity to inspect the watershed for dead animals and have them removed, burned, and report to me every Saturday. Thereby the watershed is respected.

On the inspection of the watershed I visit sixty-four houses, and it is a big job. I am doing a whole-time county health officer's work on half pay. At first we got a man to inspect the watershed at \$4.50 per day, but he broke down on it. I did not want the Morehead City incident repeated, so I told the authorities that I would inspect it myself, so I do it now, and send in the report every quarter. The negro assistants are a great help.

I think that thing of talking to five people every day about health, for five minutes, is a small thing, but it is carrying the thing around the county, and they are going to do something for a whole-time county health officer one of these days.

DR. E. F. STRICKLAND, Winston-Salem: I enjoyed the papers by Mr. Foust and Dr. Nesbitt exceedingly, and I simply speak, as most of those who have preceded me in the discussion have done, more particularly concerning my individual experience in my county.

In regard to teaching school children by example: We meet the teachers in the annual and quarterly meetings and in their educational conventions. My experience in the last few years in its varied forms, in meeting with the teachers and in the visitation of schools, has shown me that we get the coöperation, the very hearty coöperation, of a majority of the teachers. In some instances we fail to get the coöperation that we seek and that we would be so glad to have.

I believe it was Dr. Nesbitt who said something about the superintendent of public instruction being, as it were, between the devil and the deep blue sea. I believe it is sometimes the case, and I can say it from experience.

In our county the coöperating teachers meet me with a glad hand on my visitations to the schools. They coöperate, they are glad to have instructions, and they are glad to put into execution the instructions given them. They make health work a living, vital force in the school term. In a minority this is not the case. For example, during the past winter season I visited a school. I think it had an enrollment of about seventy-six, with two teachers. At the conclusion of my talk I asked for voluntary vaccination against smallpox. The two lady teachers were first to volunteer, and I vaccinated every child in that house that was not already immune—every child. In another section of the county I visited a school. Let me say here that we find many and varied conditions in the same county, almost in the same eastern or western or north-

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kept in a perfectly sanitary condition. This is due mostly to the efforts of the Ladies' Betterment Society, assisted by one of the teachers, Miss Anderson. They collected \$300 to put in these fixtures, and afterwards the general public made up the amount to pay what they had borrowed.

You can also instruct the teacher what to do when a child is sick, and what kind of note to send to the parents. The parents will not fall out with the teacher for sending a child home, because if it is done with one, they will know that you are looking out for the welfare of all.

I believe that the teachers, if treated in a courteous manner by the health officers of the various counties, will do more in public health work than it would be possible for all the physicians in that county, even if the physicians lend their assistance.

DR. J. E. MALONE, Louisburg: I am not a whole-time health officer. I am one in spirit and in pride in the work, but not financially.

I have made it a point, since I have been superintendent of health, which has been for a good many years, to go around and make health addresses in six of the larger schools. Every week I have something to say about health in the county paper. I make it a point to see five people each day and talk to them five minutes on health. I give them instruction and give them literature.

Another thing I am working harder on now than anything else is the installation of sanitary privies. We are trying to get the very simplest kinds. I was out inspecting on the watershed several weeks ago, and a negro woman for whom I used to practice asked me to come to dinner. Well, I went. Near by there was a privy. I asked her husband for a handful of flour, and scattered it over the flies under the privy. Soon after we sat at table—food covered with white flour-backed flies. "Fo' Gard!" said the husband. "Doctor, whar dem flies comes frum?" "You know," said I. "Wall, doctor, fur de Lord's sake, tell me how to git shed of 'um." I put him on to the simple 5-foot deep by 2 feet square hole in the ground sanitary privy, and almost the entire population in that community followed John Smith's example. Another good object lesson.

I have two negro health societies in my county, and am going to have more. We have some white ones, too. I have two societies on the watershed, one on each side of the river. We meet once a month for discussion of health questions, and it is the most interesting thing you ever heard. Once I offered a prize of an Ingersoll watch to the one who made the best talk on health. I have taken an automobile some nights, with a crowd from Louisburg, and have gone out to hear these discussions. You would be surprised to see the interest and enthusiasm manifested by the negroes. Negroes travel a good deal night and day, visiting, hunt-

to ask, if it will be in order for me to do so, that the gentlemen in their talks tell us their results and how they were obtained. We know that the conditions are bad, we know they are rotten, from Murphy to Manteo. I hope that we shall not have to spend the day in hearing how bad they are. Tell us how you get results, how you reduced the number of flies, etc.

I regard the weekly talk that I make in the school in my town as the greatest work I do. Since we have no examination on this health work, and since the pupils have to be examined on their other subjects and naturally we do not want to take much time from them, I made a bargain to review them on history one week if they would listen to me talk on sanitation the next week. So one week I told them about "night air," about mosquitoes, etc. The next week, in accordance with my promise to review them on history, I told them about De Soto, and how he died from being exposed to night air, and the children laughed. That laugh was the best result that I have obtained during my brief term of office.

DR. D. E. SEVIER, Asheville: The first work we have to do is to secure the coöperation of the board of education and of the teachers of the county. I believe it is the first duty of the health officer to go before the teachers at the first meeting held in his county and deliver to those teachers a hygiene and sanitation talk, explain to them that you are coming to them as their assistant; that while you are asking for their help, you will relieve them from a great many burdens. At the same time, carry with you a little pamphlet or booklet outlining the duties of a teacher in regard to the infectious or contagious diseases which may be found in the schoolroom during her term. Teach her along these lines, and you have laid a foundation for your health work that cannot be equaled in any other way.

I went before the teachers of Buncombe County at their first meeting and talked to them along these lines. I extended an invitation to them to make my office their headquarters when in Asheville. In so doing, I won their confidence, and they have carried out my instructions almost to the letter. When I go to a school, the teacher meets me with the glad hand. The pupils, of course, watch her every move. When you have instructed the teacher as to the lighting, the ventilating, etc., and then talk to the pupils, they will carry out your directions, not only in the schoolroom, but in the homes as well.

I would like to say that we have some very good school buildings in Buncombe County. One at Black Mountain, in particular, has running water, two drinking fountains in the front yard, and two separate toilets in the building. This building is elegantly lighted, well ventilated, and

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school teacher sneeze in the faces of the entire school. I saw a superintendent do it once. Such a thing may spread contagious diseases. If a teacher is always careful to use a handkerchief, and urges the children to keep handkerchiefs and to use them, she can cut down measles and whooping-cough tremendously. There is not the slightest doubt of that.

I think that the power of the school to teach by example is simply enormous. There is no precept which carries weight unless impressed by example. You must have the concrete thing to show in order to make an impression on a young mind. There are so many, many efforts that have been made to teach by precept alone, without furnishing the concrete examples. We have them all about us. We all know how they have failed. You must have something to show the eye and let the hand feel. A little ingenuity, and a little exercise of this ingenuity, will furnish in the schoolroom, from the ordinary objects of daily use and contact, an enormous number of examples for sanitary instruction.

DR. WILLIAM M. JONES: This is one of the most important subjects that will come before this meeting, if not the most important. These two talks are now open for discussion, and I hope that it will be full and free.

DR. G. M. COOPER, Raleigh: I would like to say, in the first place, that I was especially impressed with Professor Foust's discussion of the school problem. I think he has sounded the keynote. Dr. Foust said that we threw the burden on the school teacher. It is customary, I know, to throw the burden on them to as great an extent as we possibly can. I was struck with his remarks about the prohibition question—that the surface was not even scratched until the schools took it up in physiology and hygiene.

I want to say, as a county health officer, that the best work done was done by the aid of the teachers. When I got a teacher thoroughly interested, I had no further trouble. In a community where there were contagious diseases, if the people did nothing to help us, I found that we did absolutely nothing. I made the remark the other day to the teachers that if the State Normal School and the Carolina Training School turned out teachers with an interest in the subjects of sanitation and hygiene, they could do no greater work. The Carolina Training School particularly is giving its students something beyond the ordinary, everyday interest we find in teachers, and I want to take this opportunity of commending that institution for its work in this direction.

DR. B. K. HAYS, Oxford: I am new in this work, and I am here to learn. I was intensely interested in the talks that were made, but I want