entry list was large and we had to complete the examinations in seven days, so we had to examine both morning and afternoon. We picked out six men, who agreed to find six corps of examiners. An ideal method would be to have one corps of examiners examine all these babies, for it takes men with considerable experience. We had to meet this situation on short notice owing to the difficulty which arose in regard to the osteopath being connected with it. There is no question that if this thing is to be done right you should have a special building; you should have a special room for each set of examinations. We found, as you did, that every man wanted to have his particular examination first. In the examination one of the hardest things to elicit, in my judgment, is the mental test. It stands to reason some babies are easily drawn out; others are taciturn. It is hard to fill out the mental test and that part of the examination has to be lenient, especially in a contest where you have to give them marks. Like yourselves, we found most of the babies had adherent prepuces. We were surprised in these days, when so much circumcision is done, to find so many adherent prepuces. I am not inclined to favor wholesale circumcision, but shortly after birth a baby should be circumcised or the foreskin loosened. Girl babies frequently have an adherent clitoris with an accumulation of smegma, which is often a source of irritation.

As far as the contest was concerned, it seemed the irony of fate that the baby we picked as the so-called champion baby should be a bottle-fed baby. We are all striving and earnestly begging mothers to nurse their babies more and more. However, we had to stand by the marks given the babies.

Last week I gave a talk at the public library to the Mothers' Congress on the Feeding Problem, and I can assure you of one thing, that I earnestly advocated and impressed upon mothers the importance of breast feeding.

Dr. B. L. Arms, Galveston, Texas (losing).—There are two points I want to speak of, one of which was referred to by Dr. Hannah, namely, the length of the foreskin. If the foreskin was adherent or extended over and was bound down, so that there was only a pinhole opening, there was marked off 0.5% for adherent prepuce. If the foreskin could be retracted, no matter what its length, it was not marked.

Another thing. He spoke of physicians making examinations for nothing in cases that required treatment. They are supposed to refer such children not to themselves, but to advise the mothers to take them to the family physician.

I certainly agree with every one who has spoken that there should be a building on the fair grounds and the babies are worthy of a place of their own. While fairs are good places, I do insist every time that there should be a thorough examination before every baby is brought into a room where it comes in contact with others.

THE USE AND ABUSE OF A PUBLIC HEALTH LABORATORY.*

BY C. R. STINGILY, M.D.

Director of Laboratories, State Board of Health of Mississippi,
Jackson, Miss.

The motive of effort is the prolongation of physical existence. The primitive man strove for subsistence, and for the protection of the physical being from the obvious agencies of pain and discomfort. He was unconcerned about dangers which in this day are avoided by intelligent laymen as a child avoids fire.

There was a school which taught that a divine Creator had so devised things that only the stronger would survive, so that the weak being eliminated, a resistant race would finally be evolved. If so, the Caesarian section was an error, and Cæsar should have died with an unfit mother, not have lived to select the stronger from his cohorts to battle with his foe.

Only the ignorant doctor is chained to the past and its errors. The right of the strong is no longer respected. It's the strengthening of the weak with which real men are concerned. It is the opening of the door of hope to him who might not otherwise have lived that is worth while today.

Too long did medicine follow blindly the failures of the past, but with Pasteur there came a new conception of disease. He, Koch, Elbert, Laveran, Klebs, Loeffler and others lighted the way to the heights modern medicine has climbed, but there is in their accomplishments no suggestion of finality, for each new attainment extends the field for future developments.

In the old days, the medical man's life was devoted to the alleviation of the suffering of humanity, and he thought not only of the cure, but of the prevention of disease. Yet he caused panicky exodus from cities but to disseminate more widely. He failed to prevent.

The microscope, the laboratory, in conjunction with practical test and scientific research, has done much to enable the modern school to know the cause and to intelligently combat disease, and while

*Read in Section on Public Health, Southern Medical Association, Ninth Annual Meeting, Dallas, Texas, Nov. 8-11, 1915.

there is much yet to know, empiricisms need not altogether satisfy.

Aside from research work, the use of the laboratory in the diagnosis is limited only to the extent the knowledge of cause and nature of disease is limited, and in many diseases, though the cause is unknown, the microscope reveals the morbid processes with such certainty that we are at least able to label these. With the aid of the microscope we are able to determine the histological changes occurring in such morbid processes as are classified under "new growths," to differentiate between innocent and malignant tissues and to determine certain diseases that are classified under the general term "anemia."

The influence of the public health laboratory upon the production of a clean, wholesome milk supply is beginning to be felt, not alone by the consumer, but even the producer will tell you the principles involved mean economy and better business to him.

The systematic sanitary bacteriological analysis of public water supplies is the simple application of "safety first" principles, and in the future, coupled with proper care of sewage disposal, will mean the saving of many lives.

The fact that the announcement through the health authorities that bubonic plague existed in California—and more recently in New Orleans—did not cause an exodus of the inhabitants and but little disarrangement of business, attests to the use of the public health laboratories in this dread disease.

No longer is it necessary to suspend schools because there is an outbreak of diphtheria among the pupils. The discovery of the menacing carrier and the isolation is the most economical and certain method of preventing the spread of the disease.

Recently our laboratory was called upon to make examination of swabs from the school children in several different towns in which there existed diphtheria. In one of these there were 488 pupils in the white school. We found 26, or 5.3%, were carriers of the Klebs-Loeffler bacilli. Though the school was not suspended, we are not getting specimens any longer except on second or third examinations of the carriers. In another town the method was

not followed, although advised. From there we continue to receive the usual number of specimens, which are positive, and I have just heard of two recent deaths which I suspect may be chargeable to the old way of doing things.

The uses for state laboratories differ in some respects in different states. In our own, the most common use is the examinations of specimens for malaria, typhoid, tuberculosis, gonorrhea, diphtheria, intestinal parasites, meningitis, rabies in animals and the administration of the Pasteur treatment, and sanitary bacteriological water and milk analysis. Like several other states, the pure food work of our state is done by the State Chemist at the Agricultural and Mechanical College.

Just to what extent the state laboratories should carry on the work for physicians is a difficult problem. There being no private institutions in our state, we generally carry out any investigation the physician requests of us, if it is in our line of business. We believe the laboratory should be an open house and the services rendered will bring the physician in a closer relationship with the health department and make him, eventually, a part and parcel of the public health system of the state.

That the state laboratory is educational to the average physician I believe there is no gainsaying. His conception once was that diphtheria was a disease of the upper air passages. Our laboratory experience teaches us that occasionally we find violent infection in other locations, due to the Klebs-Loeffler bacillus. I recall the recent incident of a vaginitis in a child which was suspected of being due to the gonococcus. The microscopic examination revealed diphtheria bacterium and the case yielded very promptly to anti-diphtheretic serum. It is not rare in a laboratory where many routine examinations are made to find diphtheria bacilli in the sputum of patients supposed to have tuberculosis.

Within the past decade certain mild cases of typhoid were styled "slow fever." This was a common diagnosis, not only from the point of view of refined medicine, but was also common numerically. If the statisticians would accept such nomenclature, a morbidity report would rarely ever show it today. Through the

microscope usually these cases are shown to be typhoid, from which the public must be protected.

Even the public is being educated to appreciate accurate diagnosis of such communicable and preventable diseases as typhoid, tuberculosis, diphtheria, etc. To the public, the broad, yet simple, conception of modes of transmission suggest the practicability of the simple means of prevention.

Contemplating an anti-malarial crusade in the South, it is barely possible that some practical scheme will be worked out for the elimination of the carrier rather than to undertake the almost impossible task of mosquito extermination or the wholesale administration of quinine.

The laws of society and economy will soon demand the pound of preventive instead of the old ounce. While serving a purpose, there will be less demand for cleaner town contests, which is a bit too much like donning clean clothing without the bath, but more of the real problems of health will rest with the trained epidemiologist, to whom the state's laboratory will be indispensable.

If I should confine my remarks on abuse of the state laboratory to the strict meaning of the term, I would be at a loss. As director of the laboratory in Mississippi I am not conscious of any serious abuse by those using our laboratory, except occasionally I have felt that certain work which is naturally expected of the physician in his office should not have been referred to us.

The sending of dangerous specimens, improperly prepared for mailing, is occasionally a source of complaint by us. The swabs from diphtheria patients which are simply enclosed in an envelope with a letter is not only an abuse of the laboratory, but also the public confidence.

The laboratory man occasionally has very just ground for complaint, and it amounts to an abuse of the laboratory that the exceptional physician doesn't fully realize the limitations of the laboratory or the lack of uniformity in the developing processes in the human system. To illustrate, perhaps a negative report is given in a supposed typhoid case on the seventh day of the illness. In spite of this the physician may be convinced by subsequent events that he was dealing with typhoid

infection. The physician forgets, however, that the human system does not always develop the agglutinins necessary in the performance of this reaction just on time. Succeeding specimens might have revealed the nature of the disease and have protected the physician, for it is barely possible that the infection was paratyphoid, either A or B, or a colon bacillus infection of the urinary tract. If the principle is correct that the anti-bodies first formed and produced in the largest amounts are specific, where the later ones are common to the allied group, we can easily see how errors may occur, particularly if great care is not taken of the dilution factor. The following instance impressed me with lack of knowledge of the simple principle of immunity. A suggestive typhoid reaction was reported from our laboratory, and seeing that the doctor doubted the probability of typhoid infection, I asked him if his patient had been vaccinated. He replied that he had been vaccinated three times, but that it did not take.

Perhaps no greater disappointment is felt in and abuse given the laboratory than is occasioned by results in diphtheria examinations. Although the most conscientious care is taken of this work, the laboratory man may be sure of receiving his full share of criticism; he is criticised sometimes for finding diphtheria when it is not expected, and for the failure to find it when it is expected. The morbid process might have been deep down in the larynx, the infection untouched by the physician's swab, or the membranous exudate on the tonsil just painted with a strong solution of silver nitrate, yet, if the report is negative, the error is charged to the laboratory. The laboratory man must accept from the careless physician these sterile seed for his planting.

Unquestionably, the most serious abuse of the laboratory—and especially is this true in the institutions supported by the state—is occasioned by the lack of skill and caution with which physicians secure and prepare the specimen upon which the laboratory diagnosis must be founded. It seems to the laboratory man—it may be that he is somewhat influenced by his enthusiasm for his own work—that the conscientious physician of today can not hope to fully serve those who depend upon his

skill for life and health, those who depend upon him not only to protect them, but to protect his family, the friends and the public from the infection, unless he uses the laboratory; yet, use is futile unless the physician gets the material to the laboratory which will reveal the real condition. Not only is the reputation of the laboratory dependent upon the skill of the physician who prepares the specimen, but, and of real importance to the public, the treatment and prevention of disease depends, in many cases, totally, and largely, in a constantly growing number, upon that skill used by the physician sending the specimen.

Since the modern physician must use the laboratory, the modern physician, instead of having his responsibilities lessened, is under an added duty, at least so to equip himself that the laboratory will be of use rather than a stumbling block in his way. Patently it is a misuse, or a positive abuse of the laboratory to cause by it the examination of specimens which do not show the true condition of the patient. Our laboratory the past twelve months has examined about 15,000 specimens. From the senders of the specimens examined we have no general complaint to make. In fact, generally specimens are satisfactory, but any unnecessary failure on the part of a physician or the laboratory is criminal.

I am engaged in a state laboratory. To the public generally the work is free. No man in Mississippi is too poor to have the benefit of such work as our laboratory is able to accomplish. Of course, the workers in our laboratory are not engaged in any charity. Yet, I find in an alleged book on Laboratory Methods the following: "The institution which asks no remuneration for its services should be avoided." Of course this work, or the idea therein expressed, is not an abuse or a use of the laboratory, but, I apprehend, when the average busy physician undertakes to follow out the idea there further expressed, the idea of making his own laboratory examinations, a most serious abuse will sometimes follow because of the lack of time and proper facilities and technical training.

Any way, the work is, and will be for all time to come, the work of men who do nothing else. It is simply a division of

labor, such as in all things has been found to be the proper and economical way of doing things. In the future instead of increasing the doctor's sphere of activities, there is to be in the practice of medicine an increasing specialization, and allied to them all, necessary for the proper practice in either, will be the state laboratory. I say the state laboratory, because the private laboratory will be out of the reach of the masses.

Of course the things I say of the physician who doesn't properly perform the initial work has no application to those who attend this convention, but it might surprise you, gentlemen, if you were informed as to the extent of these failures; and, since in medicine, perhaps more than in any other profession, the man's ideal is the keeping of his brother, his brother physician, and in the broad, universal sense as well; and since this failure, perhaps a negative pregnant, as the lawyer would say, is now the most harmful abuse of the laboratory, I have dwelt on it, not that I presume to teach, but in a hope that the suggestion of the abuse will incite the remedy. Through the co-operative effort of the profession, the conventions and the college this evil may soon disappear.

DISCUSSION.

Dr. William Krauss, Memphis, Tenn.—It seems to me that a discussion of a paper of this sort could only be had for the purpose of emphasizing what the doctor has said.

One of the greatest troubles of the laboratory worker is the condition in which material is received. Many general practitioners have the idea that anything, no matter how selected or unselected, how prepared or how long in transit, ought to bring back 100% correct diagnoses.

There are many abuses of the laboratory. The essayist says that the Mississippi laboratory examined fifteen thousand specimens last year. This is about ten thousand more than the personnel or the equipment and general capacity of that laboratory should be called upon to work up. Much of this material does not properly come within the province of a public laboratory. Much of it comes in such a shape that even no attempt should be made to work it up. Material to be plated out, such as drinking water or milk, should arrive at the laboratory not over one hour old unless iced at the source and kept iced until delivered. Physicians are also extremely careless about sending infectious material, and it is a question in my mind whether, in some instances, the public health is not more endangered than safeguarded by the manner in which in-

fectious material is packed, in fragile and leaky packages.

Blood specimens for malaria come dried on paper, paste board, window glass, decomposed in a bottle, stuck between slides and cover glasses, and every way imaginable. Dr. Stingily spoke of diphtheria swabs enclosed in paper envelopes. As a matter of fact, we have some of the most hair-raising experiences with material received in the laboratory.

Physicians sending material to public laboratories should have some regard for the limitations of capacity of the individual worker. I mean with respect to the amount of work that one person can do and do properly in a day. I am sure that Dr. Stingily's laboratory is flooded with material which has no public health bearing whatever. Some of these transactions are frivolous and foolish, and yet if he refused to handle them he would probably be severely criticised or be the subject of legislative investigation.

The result of a laboratory examination presents only one symptom of the disease. The physician must not expect the laboratory to supply all of the information necessary for diagnosis, except where the transaction is one that definitely identifies a particular organism.

A man might be working in a laboratory on one particular thing—he can not be expected to drop that and turn to something else. He may be transferring a culture and unless he continues with the inoculation and the stopping of the tubes there will be a contamination and a wrong result. He may have another preparation in the stain which is expected to remain exactly one minute—he is called to the telephone and before he gets back the specimen is ruined. A distillation may run over—an evaporating solution burn up—an inactivation be overheated—a specimen overstrained—a culture spoiled—a blood count ruined, for frivolous interruptions.

The public, and more particularly those having executive supervision of laboratories, should be educated to a proper conception of the limitations of the capacity of one man. It is not considered too much to pay the high sheriff or the county trustee or treasurer a salary or a fee income of from ten to fifty thousand dollars per year for doing purely clerical work, yet a man with a scientific education is expected to devote twelve hours a day at hard labor to his work and receive a salary that would not compensate an ordinary bookkeeper. If public laboratories are better financed we will get better results.

Dr. W. S. Leathers, University, Miss.—It seems strange to me that after a doctor has gone through a medical school and has become reasonably well acquainted with laboratory work that there should be so much difference among physicians as to the conception of the possibilities of the laboratory. To illustrate, I recall an incident where Dr. Stingily's predecessor made a microscopic examination for tuberculosis. The physician was convinced that the person had tuberculosis, yet this specimen proved negative, and as he indicated in his paper, this physician failed to understand the report and was quite critical of the fact that the finding was not positive; that he was sure the case was tuberculosis. Now, any one who knows anything about laboratory work realizes it is pos-

sible to make ten or more microscopic examinations of a person who may have tuberculosis and not find the bacilli. Such instances are coming up constantly before many state board of health laboratories. It is therefore important that such facts of public health be brought to the attention of the physicians and be thoroughly understood by those who do not seem to understand the results of microscopic work. I think in time that all of this will be remedied automatically as a result of better educational requirements in our medical schools. There are those who graduated in medicine some fifteen years ago where the laboratories were not so well equipped, and as a consequence physicians have been turned out as medical graduates who have not obtained the best laboratory work. For this reason there are a great many physicians educated along other lines that have had practically no training in laboratory work, and owing to this fact that are practitioners who are well meaning, but at the same time are misleading in their criticisms of laboratory work. In time the medical profession will be so educated along these lines as a result of extended training that public health laboratories will not have to contend with these irregularities, which at least take time for correction.

I hope Dr. Stingily will pardon me in taking issue with him on just one point in his splendid paper. I know quite well his view with reference to certain matters in public health work, and I desire to disagree with him on the point that the time should soon come when competitive cleanest town contests will not be necessary. We obtain just the interest that we need on the part of the public by these public clean-up contests. Whether it is strictly scientific or not, it is imperative to enlist the interest of an agency like the club women in any state-wide movement. Only good results can come from such co-operation on the part of any organization. Of course, there will always be a certain amount of superficiality about such contests which will be unavoidable, but there will come out of it all a great deal of good that perhaps could not be accomplished by any other method. Women's clubs and the co-operation of all agencies which can be utilized to protect the public health, even though we fall short at times of just the very best method, or what might be termed the ideal procedure, is desirable.

I am thoroughly convinced that women's clubs are doing most effective service in behalf of public health work. I do not believe that any agencies in a state can be utilized in advancing the interest of public health work more than women's clubs. They have certainly done splendid service in many cities and towns of Mississippi.

Dr. C. W. Garrison, Little Rock, Ark.—I think we are all agreed as to the value of the laboratory, and I rise not to discuss the paper, but to say just a word as to laboratory reports and the responsibility of the general practitioner.

I do not believe that we will ever be able to effectively combat epidemics unless the general practitioner appreciates the time pending between the first observation of a suspicious case and the report from the laboratory as to its findings.

I believe that every general practitioner must assume the attitude that every case of acute dis-

ease is communicable until proven otherwise. For instance, if a suspicious throat, simulating diphtheria, is seen, it should be regarded as such and proper instructions issued immediately until further observations or a laboratory report clear up the diagnosis.

Again, in typhoid fever, as a rule, a week or ten days elapse before a positive diagnosis can be made. Unless certain precautions are observed by other members in the household pending this diagnosis, subsequent cases may follow.

Therefore, I believe the responsibility rests primarily with the general practitioner and not until we fully appreciate this responsibility and assume the above attitude will we make very much progress in the control of many communicable diseases.

Dr. F. A. Coward, Columbia, S. C.—I speak as one of the few laboratory men present, those who most appreciate the value of some sort of standard in tuberculosis and other tests.

I have charge of a state laboratory and we must admit that we are all getting into deep water in public health laboratories. This was brought to my attention recently on account of my suggestion to our board that we use the Wassermann test. It started a disturbance among the physicians from which we have not yet emerged. Several private laboratories were involved; several mayors of towns were petitioned, it was asserted, that private laboratories were being run out of business; letters were written by all sorts of laymen to the State Board of Health protesting against the methods, etc.

We are getting more and more into the sphere of industrial medicine and industrial medical regulations in this country. Unfortunately we haven't a Laboratory Section in the Southern Medical Association, and many of our laboratory papers are scattered through various sections.

We have got to come down to a settled policy as to the use of the state's money; it is now left largely to the discretion of the men in charge of the laboratory as to what tests shall be made. This ought to be standardized. We should be able to go down to the Legislature and say: "Here's the standard for laboratory work." As to what tests should be conformed to, and whose technique, the State Association, the American Association and the Southern Association should be agreed.

As stated, we are getting into deep water and we ought to do something if we do nothing but get started in this matter. We should in some way get together and be able to go to the legislatures and say: "Here is the consensus of opinion of the medical men as to the scope of work to be included in board of health laboratories."

I would like for this Association of practitioners to appoint a committee and do whatever any one thinks is proper and suggest it to the committee as to the best way to start it. The only excuse that we can give for having a laboratory is with reference to the control of infectious diseases. We have got to get started on some sort of standardization plan or program for it.

Dr. Krauss (interrupting above speaker).—I want to say that I represent one laboratory that will never raise its voice against competition from a public laboratory. The private laboratory that

can not compete successfully with an overworked and underpaid public laboratory man has no right to exist.

Dr. J. D. Davis, Austin, Texas.—The State of Texas Laboratory recently ran up against this proposition. The specimens of our railroads' water are sent in periodically for examination, and as a rule they are negative. Some man in some division of the water supply was kind enough and frank enough to label the water like a druggist or a chemist, and he had labeled it "water supply, boiled thirty minutes," and sent it in for investigation; and there are numbers of men who have just such ideas of the functions of the public health laboratory.

Dr. Freeman, the Chairman.—Dr. Coward's suggestions were very good. So far as methods are concerned, I think that is pretty well covered by the activities of the Laboratory Section of the American Public Health Association. They have started certain methods of standardization. The standardization function of a public health laboratory is a subject which I think would very properly be a subject for action upon by this Section, and if the doctor will prepare a resolution bearing upon that suggestion we can present it at this meeting.

Dr. A. M. Harralson, Newton, Miss.—I think one of the causes for the laboratory man's being abused is because people are not educated sufficiently as to what to expect of the laboratory. For instance, not very long ago I was called upon a case and he diagnosed it as possibly tuberculosis. Later on another physician came in and he sent a specimen to our laboratory and it came back negative. The result was that I got an abuse and a discharge and the fellow refused to pay his bill and the other man was lauded to the skies. Later it developed that the man had tuberculosis and the doctor believed it.

Now the thing to do is to get the people interested. A negative doesn't always mean that a man hasn't tuberculosis at all, but when we fail to make a test among our patronage we sometimes receive abuse, then as a place to relieve ourselves of it we abuse the laboratory man, and it is often the case that the laboratory man gets the abuse because the doctor gets the abuse from his patronage.

Dr. C. W. Garrison, Little Rock, Ark.—The responsibility rests on the physician and not the people. If the physicians had appreciated for the past ten years or so the diagnostic value of the laboratory and had been true to the interests of public health the people, in a large measure, would have been properly educated by this time. A frank statement as to the doctor's inability to make an early diagnosis in many communicable diseases and the disposition to guard or withhold a diagnosis in some diseases, as follicular tonsillitis and diphtheria, chickenpox and smallpox, etc., until further observations can be made and instructions issued to protect other members of the family and the public pending this observation will do much to strengthen the confidence of the people and prevent the embarrassing situation of having another physician to come in later and make a diagnosis of a vicious disease. The tendency is to diagnose a border-line case

so as to avoid health regulations. The reverse should be true.

Dr. Freeman, the Chairman.—There are some very strange things in popular psychology. The willingness of a man to believe what he wants to believe and to shut his eyes to what he does not want to believe is a very common phenomenon that is met by the physician.

A negative report on tuberculosis is of no significance and though that fact be printed in red across the face of the report card, the physician must be his own judge regarding the existence of the disease, and though the patient decides for himself that he has not tuberculosis, it is the physician's duty to convince him that he has it. The man wants to believe that he hasn't it and is going to believe it if he has any chance in the world.

Dr. James A. Hayne, Columbia, S. C.—This subject is one in which every health department, whether state or municipal, is most interested.

A question was asked in regard to how we are to get rid of the difficulties connected with the water proposition. The only water proposition that we have tried to get rid of was the proposition made to us by the railroads; that we should analyze the water and ice every six months. We simply told them that we would not take their word for it in sending in their samples that we had to examine. We would send a representative of the Board of Health and let him take samples and then we would make report on the ice or the water, and that they would have to pay all expenses connected with the trouble in doing so.

It is usually done by the municipal laboratory. They have laboratories supplied with microscopes and anything else necessary for this work. The question of the use of our laboratory was settled by the Legislature in this way. They gave us a contingent fund for the investigation of conditions calculated to spread infectious diseases and we couldn't use the laboratory except for the purpose of preventing the spreading of infectious diseases and contagious diseases.

We do not examine urine unless a special friend directs it; the examination is then made, otherwise it is not examined.

So far as the Wassermann or other tests are concerned, we have had considerable discussion in our state. We have received any number of protests from prominent citizens requesting that we do not interfere with their business by laboratory methods. They are tired of the paternalistic attitude of the State Board of Health and that we were supplanting their methods and interfering with the practice; that it was running

people to druggists for everything, and that the doctors' profession was being crippled and the general public health boards up to this time have not had the support of the general practitioner which would overcome any antagonism on the part of the medical profession and those who have private laboratories. We have had protests from private laboratories. Twenty or thirty years from now I hope that we will not have protests from practicing physicians or from private laboratories.

Dr. W. L. Heizer, Bowling Green, Ky.—There has been a great deal of discussion about how many or how few examinations should be done in a state board laboratory. As has been suggested there have been protests from private laboratories, inspired objections from chambers of commerce and criticisms from practicing physicians because it is claimed the state laboratory was taking business and therefore money returns from them to whom it properly belongs.

In Kentucky we have a very simple formula by which all of these objections automatically disappear. All of the equipment of our state laboratory and the salaries paid to its directors and assistants have been paid for by the people of Kentucky, who are rightfully entitled to all of the products of such a laboratory. We believe that the ultimate function of the State Board of Health of Kentucky is the protection of the lives of the public. It is the ultimate purpose of all the activities of all the bureaus of our State Board of Health to conserve and preserve the health and lives of the whole people. We therefore make examinations of all of the discharges of the human body, of all the water supplies of any citizen of Kentucky free of charge, believing that it is their right.

For example, if a urinalysis is made showing that a patient is suffering from an attack of diabetes or Bright's disease, even though it be not a preventable disease, such an examination may be the cause of prolonging or saving that person's life, and is of immense educational value to the public, for they are thereby taught that their condition has been known by instruments of precision in the hands of experts.

We do not seek to limit the number or kinds of examinations in the bureau of bacteriology or in the laboratory of the bureau of sanitary engineering, but on the other hand, through the co-operation of women's clubs, the Y. M. C. A., the public press, the bulletins of the board and the newspapers, we seek to have every one make use of our equipment.

In this way we do not fear to go before our state legislature over the protest of private laboratories or of other people who would be hurt financially by the exercise of the proper functions of the laboratory of the board, which is the property of the people of Kentucky.

AUTHORS' ABSTRACTS

Tropical Diseases and Public Health

(See Page 500)