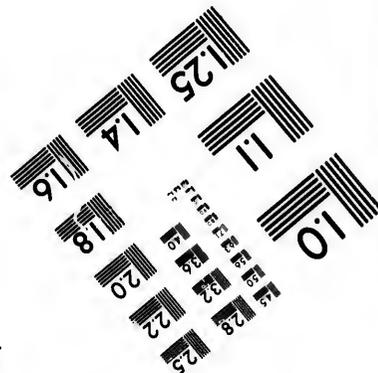
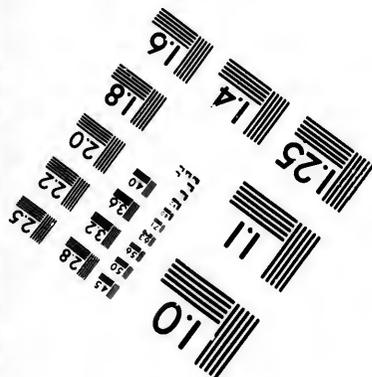
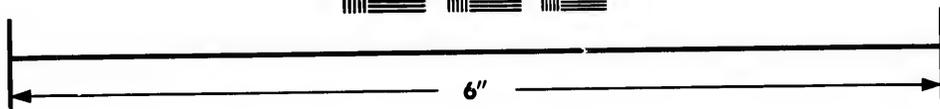
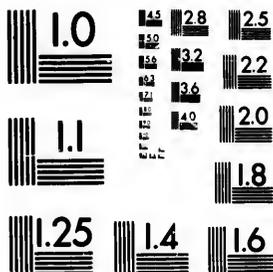


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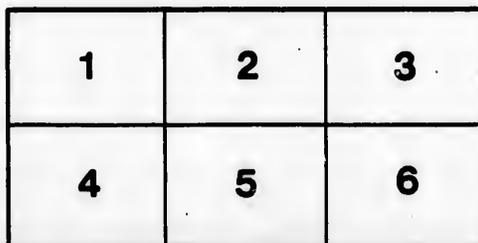
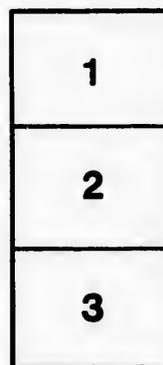
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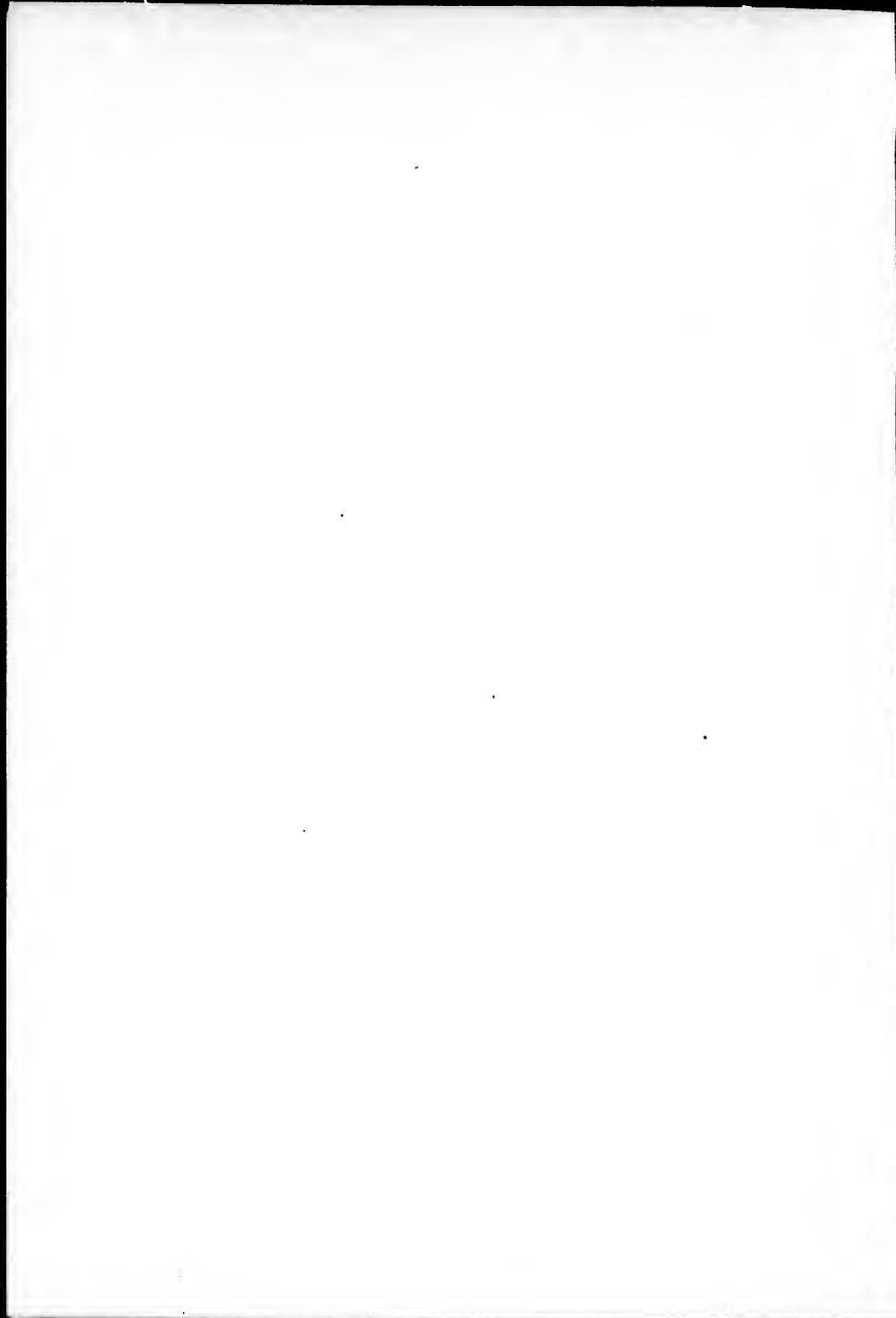
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## ON THE PRACTICAL CLINICAL TEACHING OF STATE MEDICINE.

By WYATT JOHNSTON, M.D.,

of Montreal,

Assistant Professor of Hygiene and Legal Medicine, McGill University.

By instruction in State medicine, I refer to that beyond what is required to qualify the average medical student for his degree, up to what is required to qualify him as a medicolegal or sanitary official. Though the term State medicine has by usage come to signify, in this country and England, merely public hygiene, it should properly include legal medicine as well, and it is in this wider sense that I employ it.

On comparing American facilities for instruction in State medicine with those existing in Europe, we find ourselves handicapped by the absence of official connection between the medical schools and the State. Professors of hygiene and legal medicine do not with us, as they do in Europe, become as such entitled to official positions which give them opportunities to study and practice the specialties which they teach; hence, except in the case of a comparatively few State universities, it is evident that our schools must select their teachers in these branches from among those persons holding State positions, or that the latter must obtain teaching positions in order to make practical teaching possible. Evidently, active cooperation between teaching bodies and State or municipal authorities is highly desirable.

The largely increased number of teachers who now occupy State positions, as compared with that of a few years ago, naturally leads one to inquire to what extent the teaching had become more practical. We find, however, that beyond a decided augmentation in the amount of laboratory work, the State medicine courses are still largely modeled on the old plan, and little or no teaching analogous to clinical instruction is given.

Professor F. W. Draper, of Harvard Medical School, who has for some years made systematic clinical instruction in legal medicine a feature of his course, is almost the only teacher who has done so. In hygiene very little has been attempted anywhere in the way of practical instruction in sanitation, and while courses have been begun in several institutions, they have as a rule been discontinued. I would not advocate any great increase in the compulsory work in these subjects for all students, since hygiene and legal medicine are subjects in which, while every student must know the minimum, advanced work is better left optional. This rule, which applies to all specialties, has been well pointed out by Dr. F. P. Mall in a recent article in the PHILADELPHIA MEDICAL JOURNAL.

I thought it might be of interest to record some attempts which I have made to place instruction in State medicine on a practical clinical basis in Montreal.

1. *Legal Medicine*.—A special advanced optional course was given in this subject for students who had already fulfilled the University requirements. I had, as coroner's physician and as pathologist to the Montreal General Hospital, postmortem material making with some outside cases a total of about 300 autopsies yearly. By being officially placed in charge, through the kindness of my colleagues, of all the medicolegal cases and damage claims averaging, arising in connection with cases treated in the Montreal General Hospital, a very interesting medicolegal material was obtained which could be readily utilized for instruction. This was given in the form of demonstrations and a weekly clinic, together with a system of medicolegal case reporting by students, similar to that followed with our medical and surgical cases. In this way, each student attending the course has occasion to report a number of cases and receives a fairly thorough training in the scientific estimation of disability, based upon the methods of the German authorities, who have made the subject a special study. This training in estimating the disability after injury or deciding whether or not a disease is really due to traumatism, appears likely to be of more real service to the majority of physicians than training in criminal medicolegal work. I pre-

pared a class syllabus giving the principal data on the subject of disability according to standard authorities, which has been published in the *Montreal Medical Journal* for April, 1900.

For training in the criminal side of medicolegal work, besides the examination of stains, etc., each student was required to do autopsies on bodies upon which typical injuries in the way of cuts, stabs, shots, and corrosive poisoning had been previously inflicted (post-mortem). The extent to which the written report, prepared in each case was accurate, clear, and to the point, showed in how far the technic was correct and the appearances accurately observed and properly interpreted. The practice was followed throughout the course of detailing two students to each case, one representing the plaintiff or State, and the other the defense. The latter was required to comment upon the report of his colleague and criticise it. (A plan which incidentally saved the instructor a good deal of labor.)

The largest amount of material available on any one class day occurred in the spring of 1899, and was as follows: (1) A case of infanticide; (2) a case of sudden death; (3) a case of attempted murder with inquiry into mental condition of accused; (4) a case of alleged rape with examination of stains; (5) a damage suit for injury to nerves of arms; (6) an accident-insurance case of fracture of the leg; (7) an employer's liability case of loss of an eye. Such a variety of material was, however, quite exceptional, and is by no means necessary.

During the course, one evening a week was set apart for a conference at the teacher's house (after a method followed by Professor Wm. Osler) at which the work of the week was discussed. I had also in my class the students of the McGill law faculty, to whom I give a short annual course of lectures. We tried the experiment at these conferences of detailing two law students, who had also usually seen the cases at the clinic, to act as prosecuting and defending attorneys. The evidence, of course, was confined mainly to the medical points, essential outside facts taken as being in evidence when necessary. The medical witnesses were then examined and cross-examined, and after the judge (a law student)

had given his decision, I was enabled to make a few remarks as referee.

The study of the cases in this way appeared to be more thorough and real than when the cases were simply demonstrated, and the students appeared to digest and apply their information very well.

A set of syllabus forms for medicolegal investigation, some of which were adapted from those of Professor Lacassagne, proved an invaluable practical guide in studying and reporting cases.

The course was followed by 20 students, of whom 12 obtained certificates.

2. *Hygiene*.—The class in this subject was a post-graduate one and the standard adopted that of the English *Diploma in Public Health*. This calls for six months of practical outdoor sanitary work and six months of bacteriological and chemical laboratory work.<sup>1</sup> What I wish to say concerns chiefly the plan of instruction in outdoor sanitary work, which is as follows :

A practical course in sanitation was given in connection with the Montreal Health Department jointly with Dr. L. Laberge, medical officer of health for Montreal, without whose kind cooperation the work would have been impossible.

Each member of the class was given a syllabus or prepared one for himself, detailing the points to be observed in making some special sanitary inspection, for instance, of a dairy, a vaccine institute, a water-supply, a factory, etc. Each one had thus personally to study the objects most important from a sanitary standpoint, doing also any necessary laboratory work and preparing (1) a full report; (2) a summary of the objectionable features found, and (3) recommendations for improvement. The reports made during the week were discussed at the weekly conferences of the class and criticised by the members. In their spare time, the members also accompanied the inspectors and officials in the discharge of their routine duties, though this was less insisted upon. The candidates were given opportunities of clinical study at the civic infectious hospital, though this part of the work was not organized.

<sup>1</sup> This standard was adopted officially by McGill University and a diploma provided for, this being arranged by Dr. F. R. Ruttan, Registrar of the McGill Medical Faculty, to whose prompt action in the matter the successful issue of the course is largely due.

By the plan followed, a maximum amount of independent work is secured, with a minimum demand on the instructor's time, and the nature of the work obliges the men to study the subject thoroughly and draw their own conclusions unaided.

Another means by which we propose to utilize the opportunities for study in sanitation without too much loss of time is a series of clinics in connection with the local health board in which the various questions of interest requiring to be dealt with during the week can be discussed before the class and the reasons explained for the course adopted. This is a departing from the stereotyped lectures with diagrams and models of drains, etc., which often form the stock in trade of the teacher in hygiene. Set demonstrations and inspections of typical sanitary objects of interest are better, but still lack variety and do not sufficiently confront the student with the actual problems which present themselves for solution.

The laboratory instruction consisted in a practical course in sanitary chemistry by Professor R. F. Ruttan, and one in sanitary bacteriology by myself. Some lectures on sanitary law were given by Mr. C. M. Holt. Some instruction in sanitary engineering had been arranged for, but we found no time to give it. This was also the case with meteorologic work.

In recording the methods I have personally followed, I have to plead guilty of ignorance as to the extent to which they may have been already used by others, never having personally had the benefit of any systematic instruction in hygiene or legal medicine. I can only say that being struck by the fact that little was apparently being done in these branches upon the well-tried lines of clinical instruction which has been found to answer so well in other subjects, I tried to adapt them to State medicine. Although no doubt others are doing this also, they are still too commonly neglected. While, as far as I can judge, the result has been decidedly encouraging, the ultimate result of the plan may be success or failure. The experience of other American teachers who have tried to establish advanced teaching in hygiene have shown that the matter is not very easy; in fact, one reason for reporting my experience now is

a fear that later on I may be unwilling to do so, and may have unrecorded experiences which, if not fortunate in my hands, might still be helpful to others.<sup>3</sup>

For the benefit of those working along similar lines, I may mention that in beginning work of this kind, one must secure beforehand the cooperation of teaching, licensing, and sanitary bodies to prevent a clashing; one must be prepared to give personally any part of the whole course if necessary; and one must find before beginning some means by which those attending will derive a material advantage from it.

A cooperation of sanitarians, teachers, and legislators, effected through some central sanitary body like the American Public Health Association, might afford a valuable means of securing uniformity in the matter of qualifications and diploma. I think that a diploma should imply at least several months of instruction; for shorter courses certificates might be given.

I think it important that in connection with medical schools facilities should be provided for advanced and practical teaching in State medicine, and that the State authorities should aid in the matter. Elaborate laboratories are less needed than practical and systematic utilization of the ordinary sanitary material on the same basis as clinical teaching. I have tried to show how facilities such as exist in every city in America may be readily made use of to place the teaching of State medicine upon the basis which it occupies in Europe.

Another direction in which teaching bodies might render more assistance to the health boards is in the systematic training and certification of sanitary inspectors and the lay officials of health departments. Universities proper having the teaching-staff equipment are in a better position to do this than health boards. I am at present giving a course of systematic instruction to the sanitary inspectors in connection with the Montreal Health Department at the request of Mr. H. B. Ames, chairman of the Health Committee, as a return for the opportunities afforded for teaching my own classes.

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<sup>3</sup> Since writing the above we have completed the course and 5 candidates, 3 of whom are health officials, have earned diplomas; 8 others, including 3 health officials, have partially filled the requirements and will complete them later on.

The courses of the British Sanitary Institute have been selected as the best model to follow in courses of this sort. It is difficult to see what body should hold the examinations and issue certificates such as are given by the British Sanitary Institute.

We have secured informal pledges from the public authorities that a qualification in public health will be made in the near future a prerequisite to the holding of certain positions, and in the meantime they have at my suggestion adopted the plan of giving a cash bonus to such officials already in office as may secure the qualification, on the assumption that their services would thereby become more valuable.

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