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# THE ROLE OF MEDICAL SCIENCE IN THE ADMINISTRATION OF CRIMINAL JUSTICE<sup>1</sup>

OSCAR T. SCHULTZ<sup>2</sup>

## *Introduction*

Law and medicine come in contact with each other in an important field in which information that scientific medicine is in position to furnish should be made available to and utilized by law in the administration of criminal justice. Some of this same body of medical information enters also into the administration of civil justice. Malpractice and claims for accident insurance, personal injury, and workmen's compensation need only to be mentioned to emphasize the importance of medical opinion in this field of law. But the medical aspects of the administration of criminal justice far outweigh those that enter in civil actions. Since the administration of criminal justice involves a controversy between the state and the alleged criminal offender, medicine owes an obligation to society, and it is the duty, rather than the privilege, of medicine to meet this obligation as competently as possible. Anything that will make for a better

<sup>1</sup>This article attempts to present in abbreviated form the results of a study of the present status and possible future development of legal medicine in the United States. This study was made for the committee on medicolegal problems of the National Research Council, Washington, D. C. The members of this committee are: Dr. Ludwig Hektoen, director of the John McCormick Institute for Infectious Diseases, Chicago, chairman; Dr. Adolph Meyer, professor of psychiatry in the Johns Hopkins University and psychiatrist-in-chief to the Johns Hopkins Hospital, Baltimore; Dr. Howard T. Karsner, professor of pathology, Western Reserve University, Cleveland; Dr. William H. Woodward, director of the Bureau of Legal Medicine and Legislation of the American Medical Association, Chicago; Mr. John H. Wigmore, dean emeritus of the School of Law of Northwestern University, Chicago; and Mr. Roscoe W. Pound, dean of the Harvard Law School, Cambridge. The complete study has been published as Bulletin No. 87 of the National Research Council. This study, like three preceding ones made under the auspices of the committee on medicolegal problems of the National Research Council, has been made possible through a grant made to the committee by the General Education Board of New York City. The previous studies have been the following: The Coroner and the Medical Examiner, by Oscar T. Schultz and E. M. Morgan. With a Supplement on Medical Testimony, by E. M. Morgan. Bulletin 64, National Research Council, 1928. A Survey of the Law Concerning Dead Human Bodies, by George H. Weinmann. Bulletin 73, National Research Council, 1929. A Compendium of the Statute Law of Coroners and Medical Examiners in the United States, by George H. Weinmann. Bulletin 83, National Research Council, 1931.

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application of medical science to the administration of criminal justice will be equally applicable to the administration of civil justice.

In the contemplation of this common field of law and medicine, whose relations to both law and medicine are evident from its title of legal medicine, the viewpoints of the two professions are naturally different. The subject matter, the training, the aims, and the philosophy of the two professions are different, and it is therefore not to be wondered at that the angles of view of law and medicine diverge in the contemplation of a field common to both. The divergence finds its most extreme expression in the statements of some medical writers who decry every application of legal technic and procedure, because it may hamper the presentation of medical opinion, and in the opinions of those members of the bar who profess to find nothing of value in medicine as applied to justice because of the controversial character of medical testimony as usually presented. It must be the aim of the leaders of the professions of law and medicine to overcome the tendency that would make of legal medicine merely a gainful occupation for the professional partisan expert medical witness or a procedure whose main purpose is the gaining of a legal victory by an attorney. It must be their aim to make of legal medicine a field more thoroughly tilled in common by both professions; in order that the two together may render to society the highest possible type of service in the administration of justice.

### *What Is Legal Medicine?*

The term, legal medicine, seems almost to define itself, and is used so freely as to suggest that the concept of its subject matter is quite clear. But if the legal medicine of certain foreign countries is compared with that of the United States, it will be found that the term covers both a different content of subject matter and a different mode of applying the subject matter to the needs of justice.

Horst Oertel,<sup>3</sup> professor of pathology in McGill University, Montreal, has written "The term 'legal medicine' is employed with different meanings. The most common definition is that it is the application of expert medical knowledge to the needs of law or justice. In this definition is embraced, not only criminal law, but the application to all kinds of insurance (life and accident), employees' compensation acts, soldiers' rehabilitations, and other civil

<sup>3</sup>Oertel, Horst: The Academic Position of Legal Medicine in Canadian Universities. Methods and Problems of Medical Education. Ninth Series. The Rockefeller Foundation. New York, N. Y., 1928. P. 23.

procedures. A second rarer definition applies the term to the social and legal position and relations of the physician himself, that is, his rights, duties, obligations, and responsibilities to the community and to his fellow practitioners, and how the laws of the country affect him in the pursuit of his professional practice."

It is the legal medicine of the second of these definitions that has received the greater attention in this country. This is the law of medicine. It emphasizes the aspect of legal medicine that relates to the practice of medicine. It makes up the major portion of the content of what is taught in schools of law and in schools of medicine as medical jurisprudence.

It is with the legal medicine of Oertel's first definition that this article deals. This is the medicine of law. It emphasizes the aspect of legal medicine that relates to the utilization by law of medical science in the interest of society. It is an aspect of legal medicine that has received scant attention in this country, either in its practical application to the needs of justice or in its development as a university discipline.

It might help to focus attention upon the differences between these two aspects of legal medicine if the term medical jurisprudence were limited to the law of medicine, and the term forensic medicine to the medicine of law. The former should be taught by lawyers to students in the schools of both law and medicine with perhaps the greater attention in the law school, since it is the law that must define and interpret "the social and legal position and relations of the physician himself." Forensic medicine, in the restricted sense, should be taught by physicians to the students of both law and medicine, with the greater attention in the medical school, since it is medical science that must be applied to the needs of justice. Neither the legal nor medical aspect of either subdivision of legal medicine should be isolated from the other. And especially he who proposes to become expert in either subdivision must have the opportunity of training in both the legal and medical aspects.

#### *Position, Content and Aims of Forensic Medicine*

What legal medicine is and how it aims to aid society in the administration of justice has been well told by Knud Sand,<sup>4</sup> pro-

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<sup>4</sup>Sand, Knud: *Origin, Development, and Status of Legal Medicine in Modern Times, Status of Legal Medicine in Denmark, and Description of Institute of Legal Medicine, Copenhagen. Methods and Problems of Medical Education. Ninth Series.* The Rockefeller Foundation, New York, N. Y., 1928. P. 349.

fessor of legal medicine and director of the Institute of Legal Medicine in the University of Copenhagen. After tracing the use made of medicine in the earliest systems of judicial procedure, he sketches the important and rapid development of the medical sciences that occurred in the nineteenth century and their relation to law in these words: "Pathological anatomy developed from the continued and repeated observations derived from post-mortem studies. Toxicology rose with analytical chemistry. Psychiatry was organized out of the chaos of problems involved in the ever-present problem of responsibility. And meanwhile law itself made rapid strides forward, drawing into its confines an ever increasing multitude of medical facts and methods." He then mentions a number of medical scientists, whose names are outstanding in the medicine of the nineteenth century and whose work brought to light many facts that have been utilized by law, and continues: "It is owing to these men, their contemporaries and followers, that legal medicine obtained a firm footing and now constitutes a well-founded and well-organized entity, which has become a normal discipline in most universities all over the world and has also asserted its firm position by the acquisition of institutes of research and by the establishment of government offices through which its service is secured."

In his discussion of the content of legal medicine, Sand asks a question and proceeds to answer it. "What field of medical knowledge enters especially into the service of law? This question is answered most fully when the social and medical events which dictate the address of the law to medical science for enlightenment and assistance are considered.

"These events necessarily are those mental or bodily manifestations which are affected by civil or criminal law; . . . For the purpose of dealing with these questions the medical adviser uses an insight derived from his knowledge of all branches of medicine . . . Still, there are certain branches of medicine that will prove to be needed most frequently.

"Very often indeed the necessity arises in civil as well as in criminal law for a psycho-pathological investigation for the purpose of deciding the mental status of certain individuals and their legal accountability. The vast field of legal psychiatry has developed out of these conditions. . . . Bodily injuries will call for investigations of live persons and in post-mortems.

". . . The judgment of lesions is supported by pathological anatomy. . . . This field of medicolegal work constitutes by far

the more ponderous of all, particularly because of its bearings on sudden death and its causes.

"The medicolegal expert . . . will find it necessary to give his most serious attention to general laboratory work. . . . The subject of pharmacology, with its bearings on toxicology, is of great importance."

Surgery, obstetrics, and pediatrics are mentioned as branches of clinical medicine that may be required when the occasion demands. Fundamental medical sciences not included in the above excerpts, but that may be of the greatest importance in medicolegal investigations are anatomy, bacteriology, immunology, and physiology.

What is the aim or purpose of such a science of legal medicine as has been outlined? Sand says, "Its main purpose is to demonstrate the right manner in which the special knowledge and skill of a doctor may enter into the service of the courts. . . . It is, . . . a unified discipline, which teaches the use of the doctor's fund of medical knowledge from a definite point of view and for a definite purpose." How does legal medicine carry out its purpose? "Legal medicine is not merely a theoretical science, but a field of eminently practical activity. . . . Certain principles affect the work of the medical expert in the medicolegal practices. . . . The doctor is a medical man, not a jurist. He is the expert adviser who, as such, investigates certain facts, clarifies them, and, in explaining them, guides and assists the courts."

One point brought out incidentally in the above quotations from Sand deserves further emphasis. This is that the service of legal medicine is to the courts, and that it is not particularly concerned with the contentions of the prosecution or plaintiff on the one hand or of the defendant on the other. The service of legal medicine, as envisaged by Sand, is nonpartisan and impartial, just as the court is nonpartisan and impartial.

It is the aim of the following pages to inquire into the manner of utilization of medical science in the administration of justice in the United States, and into the extent to which expert, nonpartisan medicolegal service is available to our courts, in the light of such a science of legal medicine as has been described. This will reveal the extent to which legal medicine in the United States "constitutes a well-founded and well-organized entity," the extent to which it "has become a normal discipline" in our universities, and the extent to which it has "asserted its firm position by the acquisition of institutes of research and by the establishment of government offices through

which its service is secured." The situation in this country may then be contrasted with that in countries where expert nonpartisan medicolegal science is made available to the courts through governmental and university institutes of legal medicine. Upon the basis of this contrast it is possible to offer suggestions that should lead to future improvement in the status of legal medicine in the United States and to a more intelligent administration of justice.

*The Application of Medical Science to Law in the United States*

In the United States the practical application of medical science in the interests of criminal justice occurs along three different lines.

(1) The most common application is in the *investigation of deaths* into whose causation there enters a suspicion of criminal violence. It is the purpose of such investigations to determine as accurately as possible the cause and manner of death. Not only must the causation of death by the supposed injury be established in scientific manner, but other causes of death must be excluded, if the findings relating to the supposed violent cause are to have full weight. The investigation of death and its causes requires the skill and technical experience of the trained pathologist. Many poisons produce no changes that can be certainly detected by the eye of the most skilled pathologist. In such cases the poison itself must be detected, and it must be found to be present in a quantity that would make it a probable cause of death. Poisons and their action, detection and quantitative estimation constitute the field of toxicology. The proof that a detected substance is the alleged poison may require the use of some of the experimental technical procedures of the pharmacologist or physiologist. The determination of the cause of death, and what is more important, the exclusion of nonviolent causes of death, may require the aid of bacteriologic, histologic, or immunologic investigations.

The investigation of supposedly violent deaths occurs usually through the office of coroner. In some states the justice of the peace may function as a coroner, and in a few eastern jurisdictions the office of coroner has been replaced by that of medical examiner. How well these agencies perform their important duties will be discussed later.

(2) One of the most important problems with which the administration of justice has to deal is the determination of the *mental responsibility* of a person accused of an alleged criminal act. The investigation of the mental state and the determination of mental

abnormality is the work of the skilled psychiatrist. In some localities provision has been made for making psychiatric examination and opinion available to the agencies of justice. In general, however, this important branch of medical knowledge is applied through paid experts working under a system that will receive mention shortly.

(3) The third line of application of medicine is in the *evaluation of clues* and circumstantial evidence, and in the apprehension and identification of suspected criminals and important witnesses. This important field of police science, which is but poorly developed in this country, must make use not only of medical science, but of many other pure and applied sciences and technical arts.

#### *Expert Testimony and the Hypothetical Question*

Before inquiring into the actual use made of medical science by the agencies of justice, it may be well to discuss briefly the method of presenting medical facts and opinions, although most members of the legal profession are familiar with this aspect of the subject. Maguire<sup>5</sup> has pointed out that there are three main methods by which facts, or opinions based upon facts, that are beyond the ken and experience of the average layman may be presented to courts. The first attaches to the tribunal an expert or corps of experts as an integral part of the tribunal. This is theoretically an ideal procedure, but objections to its practical application will occur to every one. This method is not in use in the United States.

A second method of procedure is that under which the court selects an expert or experts to act as friend or adviser of the court. Like the first method, it has the great advantage that the expert opinion is nonpartisan and unbiased. Like the first, it also has the disadvantage that the judge on the bench, however learned he may be in matters of the law, may have difficulty in determining actual expertness in technical or scientific fields other than his own.

The right of a trial court to select its own experts seems to be an inherent one under the common law, but upon this point there appears to be some difference of opinion. Thus Maguire<sup>6</sup> has said, "The appointment of disinterested experts as advisers to the court seems unworkable where juries are finally responsible for solution of factual questions, nor is this way of acquiring information beyond reproach even when the judge handles facts as well as law." Wood-

<sup>5</sup>Maguire, John M.: *Expert Testimony*. Encyclopaedia of the Social Sciences. Vol. 6, p. 13. The Macmillan Co., New York, N. Y., 1931.

<sup>6</sup>Maguire, John M. Loc. cit.



ward,<sup>7</sup> on the other hand, has written "The weight of legal opinion is, I believe, to the effect that the judge has the right to call in expert witnesses on his own account and of his own selection, if he has the means of doing so. The trouble is that some courts have not the means, and others are timid about exercising their rights."

While the weight of legal opinion may be that the court has the right to appoint its own experts, this right seems to be questioned from time to time and to form the basis of appeal to a higher court. In 1920<sup>8</sup> and again in 1930,<sup>9</sup> the Ohio Supreme Court upheld the right of a lower court to select its own medical experts in personal injury cases. In *Alcorn v. Cincinnati Traction Company*,<sup>10</sup> the same high court affirmed the right of the lower court to appoint its own accountant in a suit involving an accounting for taxes under a public utility franchise. These were civil actions in which the appeal questioned the trial court's inherent right under the common law to name its own experts.

In some states the right of the lower court to call its own experts in criminal actions has been enacted into statute law. Such statutes do not in any way interfere with the right of either defense or prosecution to place on the stand as many experts of its own choosing as either side may desire. In 1910 the Supreme Court of Michigan<sup>11</sup> declared unconstitutional a statute providing for judicially appointed experts in criminal homicide cases. The higher court held that it was not a proper function of the court to select witness and that the testimony of the official expert of the court would receive undue credit. The Supreme Court of North Carolina<sup>12</sup> in 1916 sustained a trial judge who appointed an expert in a murder trial. In 1930 the Supreme Court of Wisconsin<sup>13</sup> upheld a statute similar to the one previously declared unconstitutional in Michigan.

It is not necessary for the purpose of this discussion to attempt to seek out every court decision that may have a bearing upon the right of a court to appoint disinterested experts as advisers to the court. The purpose of the references cited has been merely to indicate

<sup>7</sup>Woodward, William C.: Director, Bureau of Legal Medicine and Legislation, American Medical Association, Chicago: Communication to Dr. Ludvig Hektoen, Chairman, Committee on Medicolegal Problems, National Research Council. Jan. 30, 1932.

<sup>8</sup>*Feldcamp v. Cincinnati Traction Company*, 20 Ohio Law Rep., p. 316.

<sup>9</sup>*S. S. Kresge Company v. Trester*, 123 O. S. 383; 175 N. E. 611.

<sup>10</sup>*Alcorn v. Cincinnati Traction Company*, 22 Ohio Law Rep. 319; 25 'N. P. (N. S.) 523.

<sup>11</sup>*People v. Dickerson*, 164 Mich. 148.

<sup>12</sup>*State v. Horne*, 171 N. C. 787.

<sup>13</sup>*Jessner v. State*, 231 N. W. 634.

that this right has been made the basis of appeal and that the right appears to be upheld in most jurisdictions. Granted that the court has the right to appoint an expert as adviser to the court, the objections to this procedure are that, as Woodward has said, the court may not have the means to avail itself of its right and that nonpartisan advice of the proper degree of expertness may not be available under present conditions.

The third method of presenting expert opinion has been termed by Maguire<sup>14</sup> the "contentious" or "combative" method. Although these words are used seriously and without quotation marks in the original, they fitly express the chief defects of this system, which is the one in common use in this country. The experts are retained by one side or the other. The fact that expert medical testimony is to be used by one side usually results in the employment of experts on the other side to combat the testimony of the opposing side. Since the experts of one side or the other of a legal controversy are partisans of the side employing them, their testimony is open to the suspicion of bias. Although the expert may try to be thoroughly impartial, the restriction to which he is subjected by legal technicalities and the knowledge that his testimony will be combated by the opponents almost inevitably leads him to contend for the correctness of his opinion. Sheer weight of numbers of experts often appears to be relied upon to determine an issue. The result is often a "battle of experts" that is a credit neither to medicine nor law. In every large city there are what might be termed "professional" medical experts who are not held in very high esteem by their colleagues of the medical profession or by the leaders of the bar.

The presentation of expert testimony under the system that prevails in the United States is often hedged about with technicalities of legal procedure that prove irksome to the intelligent physician who honestly attempts to state an opinion in nonpartisan manner. When a medical writer<sup>15</sup> sarcastically entitles the opening chapter of a book upon the subject of expert testimony "Technicalities—and More of Them" and begins that chapter with "Technicalities are the life of trade—legal trade, at least. Which means that they may have nothing in common with the old term, justice," lawyers may be inclined to forgive him on the ground that he does not fully understand the necessity for legal technicalities.

Of such technicalities the hypothetical question is theoretically

<sup>14</sup>Maguire, John M. Loc. cit.

<sup>15</sup>Williams, Edward H. *The Doctor in Court*. The Williams and Wilkins Co. Baltimore, Md., 1930.

one of the most logical and scientific. It is the hypothetical question that may prove most annoying to the medical witness and that has come in for unflattering comment by physicians. Although a medical writer<sup>16</sup> has criticized what he terms the "absurdities" of the hypothetical question, it is not to medical authors but to legal authorities that one must turn for the use of such words as "obstructive and nauseous," "thoroughly disgusted," and "cumbersome" in discussions of the hypothetical question. It is Wigmore<sup>17</sup> who wrote. "Its (referring to the hypothetical question) abuses have become so obstructive and nauseous that no remedy short of extirpation will suffice." And it was Morgan<sup>18</sup> who wrote, ". . . the misuse and abuse of the hypothetical question by counsel, . . . has done much to make court and jury, as well as the medical profession, thoroughly disgusted with the whole matter." And it was Maguire<sup>19</sup> who wrote, "The so-called hypothetical question is only too often a necessity and a very cumbersome one; it can rob an examination of intelligibility if framed without the firm mental grasp essential to terse description of decisive factors." The reform of procedural technic is a matter for the attention of the legal profession. But a more thorough and impartial application of medical science to the needs of law should be the concern of everyone interested in a better administration of criminal justice.

### *The Office of Coroner*

An inquiry into the manner in which medicine is applied to justice under existing conditions should probably begin with consideration of the office of coroner. The use of medical science by this office is or should be a matter of routine in its every day duties. This is recognized by the requirement of some jurisdictions that the coroner be a physician and in others by the attachment to the coroner's office of one or more coroner's physicians, or autopsy surgeons, or pathologists. The office is an almost universal one in the American system of county government. Even in those jurisdictions where the

<sup>16</sup>White, William A. *Insanity and the Criminal Law*. The Macmillan Co., New York, N. Y., 1923.

<sup>17</sup>Wigmore, John H.: *A Treatise on the Anglo-American System of Evidence in Trials at Common Law*. Sec. 686. 2nd Ed. Little, Brown & Co., Boston, Mass., 1923.

<sup>18</sup>Morgan, E. M.: *Medical Testimony*. Supplement to *The Coroner and the Medical Examiner*, by Oscar T. Schultz and E. M. Morgan. Bulletin 64, National Research Council. Washington, D. C., 1928.

<sup>19</sup>Maguire, John M. *Loc. cit.*

office does not exist under its usual title, its duties remain to be performed and are constantly called into action.

The origin and early history of the coroner's office and the transplantation of the English office of rural county coroner to America have been discussed elsewhere. The ancient and honorable past of the office is interesting, but veneration for the things of antiquity should not blind us to the fact that contemporary civilization, and especially the congestion of large populations into urban and suburban areas, have introduced factors that were unknown when the office was established in our original colonies. The duties of the office have increased, they have assumed a different character, and they, as well as the startling advances in medicine during the past century, demand an exceptionally high type of medical service.

Concerning the character of the duties actually performed by the office of coroner in any populous jurisdiction, neither layman nor lawyer nor doctor seems to have any very clear conception. Everyone will be quick to admit the necessity for some impartial and governmental agency for the investigation of deaths due to criminal homicide. But such deaths are a minimal, and in actual numbers an insignificant fraction of the cases actually investigated by the coroner's office. The lawyer, the doctor, and the criminologist will have no difficulty in assigning to the coroner the investigations of deaths presumably due to suicide or abortion, because the dividing line between such deaths and those due to criminal homicide may need to be determined by official investigation. The lawyer will add deaths due to other forms of violence, namely casualty, since there may enter into such deaths questions of negligence or criminal responsibility. The statutes of all the states quite universally assign to the coroner's office the investigation of all deaths due to the various forms of violence noted, but the statutes of a number of states sharply limit the extent of the investigation that the coroner may make in the various kinds of violent deaths.

Does the investigation of violent deaths constitute the sum total of the activities of the coroner's office? Every physician knows that it does not. He comes in contact with many deaths, to which others than the physician give little thought, that require action by someone other than himself. The authority to furnish a certificate of death, which is a prerequisite to disposal of the body, is limited to legally qualified practitioners of medicine. If death is sudden, or if the person, having been ill for a longer time, has not been seen professionally by a physician, and the latter finds the patient dead or dying

upon arrival, the physician is not in position to furnish a legal certificate of death. The responsibility for certifying the cause of death must be assumed by some agency of government. That agency is usually the coroner's office. In some jurisdictions, if the death is not presumably due to violence, the local registrar of vital statistics may assume the responsibility of issuing the death certificate. But the vital statistics office is an office of record, and has neither the facilities nor the personnel to determine a cause of death except by guess. Unfortunately the authority of the coroner in determining the cause of death in such cases is usually also so limited that he too can do little more than guess at the cause of death. In spite of the poor definition of authority to determine the cause of death in such cases, non-violent deaths make up half or more than half of the cases referred to coroners for investigation and certification.

Many physicians would go further and would like to refer to the coroner's office deaths in which the physician has not been able to make an antemortem diagnosis, although he has been in attendance before death. The investigation of the cause of death in such cases is not a proper duty of the coroner. Society has not yet advanced to the stage of working with vital statistics in which causes of death are established or confirmed by scientific postmortem examination. And many physicians have not yet reached the stage of wishing to have their antemortem diagnoses confirmed or disproved by such examination. We are still too concerned with the fact of death of a relative, to wish to have an accurate health record of our forebears or to leave such a record to our descendants. Until that time comes the coroner's office is not an agency for establishing the cause of death, if a physician has been in attendance and if there have been no circumstances to lead him to suspect foul play.

The accompanying table, which is taken from the complete report upon which this article is based, gives for three coroner's offices and for three medical examiner's offices the total deaths in the jurisdiction, the number and percentage of those deaths referred to the coroner or medical examiner, and the distribution of the referred deaths in various categories. The coroner's office of Cook County, Illinois, will be left out of consideration for the time being, because of the unusual distribution of its statistics.

In the remaining offices of coroner and medical examiner, it will be noted that from 12.0 to 20.9 per cent of all the deaths that occurred in the jurisdictions were referred to the governmental agency of the coroner or medical examiner for investigation. The average

TABLE 1  
MEDICAL EXAMINER

Jurisdiction.	Year	Popula- tion	Cost per 100,000	Deaths			Violent Deaths				Abortion		Natural causes		Necropsies					
				Total	Referred	%	Homicide	%	Suicide	%	Casualty	Total	%	Total	%	Total				
New York City.....	1929	6,300,000	\$2,646	77,482	14,954	19.3	426	2.8	1,312	8.8	4,536	30.3	6,274	41.9	118	0.8	7,592	50.8	3,003	20.1
Suffolk Co., Mass..... (Boston)	1930	879,536	5,077	12,265	1,471	12.0	23	1.6	128	8.7	571	38.8	722	49.1	11	0.7	734	49.9	283	19.2
Essex Co., N. J..... (Newark)	1930	838,513	6,115	9,010	1,775	19.7	62	3.5	145	8.2	568	32.0	775	43.7	19	1.1	874	49.2	859	48.4
CORONER																				
Cook County, Ill.,..... (Chicago)	1930	3,982,123	3,575	42,020	4,098	9.7	521	12.7	730	17.8	2,594	63.3	3,845	93.8	44	1.1	209	5.1	1,530	37.3
Philadelphia .....	1926	1,904,431	5,056	27,660	5,774	20.9	162	2.8	311	5.4	1,815	31.4	2,288	39.6	53	0.9	3,433	59.4	1,452	25.1
Hamilton Co., O..... (Cincinnati)	1930	589,356	4,256	7,943	1,336	16.8	87	6.5	127	9.5	545	40.7	759	56.7	9	0.7	568	42.5	191	14.3

was 17.7 percent, surely a figure large enough to indicate the importance of these agencies in the investigation of causes of death. Deaths supposedly due to criminal homicide constituted only 1.6 to 6.5 per cent of all deaths investigated, with an average of 3.4 per cent. Numerically, the homicidal deaths make up a very small part of the work of the coroner or medical examiner; criminologically, their importance is out of all proportion to their number. Suicidal deaths varied from 5.4 to 9.5 per cent, with an average of 8.1 per cent. Deaths due to casualty were 30.3 to 40.7 per cent, and averaged 34.7 per cent. All of these forms of violent death combined averaged 46.0 per cent for the five jurisdictions and varied from 39.6 to 56.7 per cent. Deaths due to abortion, which are listed separately in the statistics of the offices, may be disregarded since they averaged less than 1.0 per cent.

That the investigation of violent deaths is not the main function of the office of coroner is apparent from the figures for deaths that were ascribed upon investigation to natural causes. These varied from 42.5 per cent to 59.4 per cent and averaged 50.4 per cent. This group of deaths investigated by the coroner or medical examiner made up almost 10.0 per cent of all the deaths in the various communities.

Study of the statistics of other coroner's offices will reveal much the same distribution of work as is evident in the tabulation herewith presented. The unique character of the figures for Cook County, Illinois, is due to purely local factors. The state's attorney's office of the county, acting as legal adviser to the coroner, some three or four years ago ruled that the coroner had jurisdiction only in deaths supposedly due to violence, and that deaths due to unknown but presumably not violent causes must be referred to the registrar of vital statistics. This conflict of authority of the two offices has been removed by a recent act of the legislature. It may be of some interest to the citizens of Cook County to know that at the time the figures given herewith were prepared the county had achieved the unenviable position of leading the entire country in the number of death certificates listed as unsatisfactory or not acceptable by the division of vital statistics of the federal census bureau.

The character of the work of the coroner's office being such as the foregoing figures have shown it to be, what is its quality? The coroner's office has been the subject of impartial study in a number of localities. Here there need be mentioned only Cleveland; New York City just prior to the change to the medical examiner system;

Chicago, San Francisco, and New Orleans in an earlier<sup>20</sup> survey made by the committee on medicolegal problems of the National Research Council; and Chicago, Philadelphia, and Cincinnati in the present study. All of these investigations, as well as others made elsewhere, have been unanimous in the conclusion that the average coroner's office does poorly work that is of great importance to society. Every lawyer who has been present at a coroner's inquest knows what a futile proceeding this can be. Many a prosecutor knows how difficult has been the preparation of a case after the coroner's inquest has finished its work. It would probably take a trained pathologist to determine how far the medical work of the average coroner's office falls short of the scientific accuracy that it should have. If the coroner's physician is competent, he is usually hampered by inadequate facilities.

The reasons for the failure of the coroner's office are not far to seek. Leaving out of consideration entirely the fitness or ability of the individual coroner, the chief causes of poor functioning are the political, politically obscure, and elective character of the office; the short tenure of office; the lack of qualifications required of the coroner in most jurisdictions; the poor definition of the authority of the coroner in the statutes relating to the office; and the failure of society to realize the importance of the duties of the office. The coroner is usually a party politician. The obscurity of the office, with its relative paucity in political spoils, does not usually entice even the more robust type of party politician. The short tenure of office is not conducive to the development of the technical legal and medical staff that the office should have, if it is properly to carry out its functions. If the coroner happens to be a physician or is required to be a physician, he may manifest interest in the medical duties of the office, but he is usually not trained in the one branch of medicine, namely pathology, which is the foundation of medicolegal work. He is apt to be merely the political type of doctor, who is no great improvement over the layman type of politician. In most states, the statutes relating to the office are the original ones that established the office. They have not been revised to meet the changed conditions of contemporary life. The body of society cannot be expected to have an appreciation of the importance of the duties of the office until lawyers, physicians, students of government

<sup>20</sup>Schultz, Oscar T., and Morgan, E. M. *The Coroner and the Medical Examiner*. Bulletin 64, National Research Council, Washington, D. C., 1928.



and other professionals have become conversant with the functions of the office and with the way in which they should be performed.

Drastic reform of the office of coroner is necessary if the office is to become the medicolegal agency that it should be. Those who have given most thought to the matter believe that the only real reform is the radical step of abolition of the office of coroner. If the office is abolished, it is necessary to transfer the important magisterial and legal functions of the coroner to the prosecutor's office, which is much better qualified to perform them. Many of the antiquated statutes relating to the coroner impose upon this official a number of extraneous minor duties, that are a relic of the old days when the coroner was a sort of under sheriff and extra bailiff; if there is still any need of these duties, they must be transferred to other already existing agencies. The important medical duties are vested in an official known as a medical examiner. The latter is an appointive official, who serves either under a long term appointment and is usually repeatedly reappointed, or continuously and indefinitely under civil service. In a subsequent section the manner of functioning of the medical examiner system will be briefly discussed.

### *The Office of Medical Examiner*

Massachusetts, the second oldest of the original colonies, was the first of the states that later made up the federal union to decide that the coroner system failed adequately to perform the duties imposed upon it. By an act of the legislature, the coroner's office was abolished throughout the state in 1877. Two salaried appointive medical examiners were provided for the county of Suffolk, in which Boston is situated. For the rest of the state the law provided that the county commissioners might name as many medical examiners, working under a fee system, as might be necessary.

At the time that the Massachusetts medical examiner act became effective, its provisions were such as best met then existing conditions. In the light of later developments, improvements that might be made in the Massachusetts law have become apparent. The single medical examiner's office of New York City handles well a volume of work much greater than that of the two medical examiners of Suffolk County. Automobile transportation and improved highways would make it possible to consolidate the large number of outlying medical examiner districts into a much smaller number, served perhaps by part-time or full-time, appointive, salaried examiners. Such a re-districting should disregard county lines. A properly supported single

examiner's office in Boston could become the scientific medicolegal center to which the problems of the outlying medical examiners could be submitted for scientific solution.

In due time other New England states followed the lead of Massachusetts and replaced the coroner by the medical examiner, Maine being the last of this group of states to make the change. In most of these other jurisdictions, the medical examiner laws differ in some respects from those of Massachusetts. The differences are not always to the advantage of better functioning. In Connecticut the office of coroner is retained. The coroner, who must be a qualified lawyer, is appointed by the governor and functions chiefly in the holding of inquests. The coroner appoints the medical examiner. In Rhode Island, coroners appointed by the town councils still function in the holding of inquests if the medical examiner or attorney-general deems an inquest necessary. Medical examiners are appointed by the governor for a period of six years. In New Hampshire the medical examiner is known as a medical referee. Maine abolished the office of coroner in 1929. In Vermont, there are neither coroners nor medical examiners. Justices of the peace or municipal or city judges may hold inquests.

The legislature of the state of New York abolished the office of coroner in New York City in 1915. In 1918 a single medical examiner, appointed under civil service, took over the duties of the several coroners of the jurisdictions that entered into the formation of the greater city. The original chief medical examiner has served continuously since 1918.

In 1927, the legislature of New Jersey made the adoption of the medical examiner system optional with the two counties of the first class. The change was immediately made in Essex County, in which Newark is situated. The physician, who had served for two and a half years as county physician and coroner before this change became effective, has served continuously as medical examiner since the change was made. The New Jersey law, which is quoted by Weinmann,<sup>21</sup> is the best statute thus far drawn and may serve as a model to other jurisdictions.

The table that is included in this article presents the statistical summaries for the medical examiner offices of New York City, Suffolk County, Massachusetts, and Essex County, New Jersey. These three offices investigated from 12.0 to 19.7 per cent of all the deaths

<sup>21</sup>Weinmann, George H.: A Compendium of the Statute Law of Coroners and Medical Examiners in the United States. Bulletin 83, National Research Council, Washington, D. C., 1931. P. 218.

that occurred in their respective jurisdictions, the average being 17.0 per cent. Necropsies, which reflect the scientific spirit and the medicolegal value of the agency if properly performed, were done in 19.2 to 48.4 per cent of all the deaths investigated; the average was 29.2 per cent. Not only do these agencies do a larger volume of work relative to the population of their jurisdictions than do coroners' offices, but their work is much better done as measured by the criteria that apply to scientific work. The medical examiners and their assistant medical examiners have served continuously for relatively long periods of years. Well trained in the beginning, their training has become of increasing value to the public that they serve, through added experience in medicolegal work. The cooperative relations between these medical examiners and other agencies of justice are much closer than obtain in most coroner jurisdictions. If any criticism is to be made against these three medical examiner offices, it is that lack of support and failure to understand the importance to society of the work done do not enable the medical examiner to employ all the necessary medical sciences to the fullest extent, and do not permit these agencies to become the centers for the dissemination of medico-legal knowledge that they might become.

### *Psychiatric Court Service*

The office of coroner exists. When the need arises, it functions, as a matter of routine and as best it may, with the facilities provided and under the laws governing it. Its mere existence is a recognition of the need for the application of one subdivision of medicine in the administration of justice. In the application of another division of medicine, namely psychiatry, the need is not so well recognized. In most states, there is no routine procedure for the application of this branch of medicine. Yet the frequency with which psychiatry is called into play in trials at law is evidence of the important place that psychiatry should have in the administration of justice.

The advances and changes of opinion that have occurred in this field of medicine, as they relate to our knowledge of mental abnormality and human behavior, might be almost compared with those that followed the introduction of antiseptic procedures into surgery. Law, as a body of precepts for the guidance and control of society, appears to have remained unaware of the changes that have occurred in psychiatric viewpoint. Perhaps this is because many opinions upon psychiatric matters are still only matters of opinion and are not susceptible of absolute objective proof. This is all the more reason why

the subject matter of psychiatry, when called in the scope of law, should be presented impartially by an agency that is a part of government, as which its services would be available to the other parts of government that have to do with the administration of justice. What has been done in the way of developing agencies for the impartial presentation of psychiatric opinion is an indication that much improvement is possible over the usual method of presenting psychiatric opinion by partisan medical expert testimony. As types of such agencies the system of psychiatric examination of prisoners in Massachusetts, the Medical Service of the Supreme Bench of Baltimore County, and the Behavior Clinic of the Criminal Court of Cook County may be presented.

### *The Massachusetts System*

Under a law, which in its original form was enacted by the commonwealth of Massachusetts in 1849, any person under complaint or indictment may, at the time of sentence, or at any time prior thereto, be committed to a state hospital as insane, or for observation as to his mental condition. In order to obviate the necessity of an observation commitment in all doubtful cases, a law was passed in 1918 which authorizes any court to require the state Department of Mental Diseases to assign a member of the staff of a state hospital to make an examination of a person coming before the court. In the foregoing laws, the obtaining of an opinion from a psychiatrist of a state hospital is discretionary with the court. These laws, however, provided a procedure by which expert testimony could be obtained without cost to the court. A law passed in 1921 makes psychiatric examination mandatory in certain cases. Clerks of court must report to the Department of Mental Diseases all persons accused of capital crime, and all persons indicted or bound over for a felony who have been previously indicted for any other offense more than once. A still further advance was made by Massachusetts in 1924, by the passage of an act calling for the psychiatric examination, by the Department of Mental Diseases, of convicted prisoners serving a sentence of more than thirty days in a house of correction or jail, and of all prisoners in such institutions known to have served a previous sentence.

The law of 1921 placed upon the clerk of the court the responsibility of notifying the Department of Mental Diseases that there was in the jurisdiction of the court a prisoner subject to psychiatric examination. The clerk frequently had no information relative to previ-

ous conviction or indictment of prisoners. It became obvious that many prisoners indicted for felonies other than capital offenses were not being reported for psychiatric examination. This defect in the law was remedied by an amendment that became effective in 1927. This requires the probation officer, who has a record of previous indictments or convictions, to transmit his information to the clerk of court.

#### *Medical Service of the Supreme Bench of Baltimore*

In April, 1920, the general assembly of Maryland passed an act creating the Medical Service of the Supreme Bench of Baltimore. This act grew out of the volunteer service that had been rendered to the local courts since 1917 by Dr. John R. Oliver, a psychiatrist. The creation of this medical service was a recognition of the importance of psychiatry in the administration of justice.

The primary function of the medical service is to make psychiatric examinations of those in the jurisdiction of the Supreme Bench and its agencies, the latter being the probation department and the prisoners' aid association. Examinations are made also upon the request of the state's attorney's office, of the various social service agencies of Baltimore, and of the Board of Mental Hygiene of Maryland. Examinations are also made of prisoners in the city jail.<sup>21a</sup>

#### *Behavior Clinic of the Criminal Court of Cook County*

In April, 1931, the board of county commissioners of Cook County, Illinois, established the Behavior Clinic of the Criminal Court of Cook County. This agency for the application of psychiatry to law grew out of the activities of members of the local bench who realized the important service that psychiatry may render in the administration of justice. The clinic was organized with the advice of a committee of the Institute of Medicine of Chicago.

According to a statement of its director,<sup>22</sup> "The clinic was organized to give advisory psychiatric service to the judges of the Criminal Court. It was originally proposed to limit the work to examination of persons who had been convicted, but not sentenced, and who were being considered for probation. As a matter of fact, however, many of the examinations by the clinic have taken place

<sup>21a</sup>See Overholser Article in Sept.-Oct., 1932, JOURNAL OF CRIMINAL LAW.

<sup>22</sup>Hoffman, Dr. Harry R., Director, Behavior Clinic of the Criminal Court of Cook County: Personal communication, Apr. 4, 1932.

before conviction and in some few cases even before indictment. . . . A psychiatric examination is available to the judges of the Criminal Court. However, in some few instances judges of the municipal court have referred cases for examination when the patient was being incarcerated in the county jail. A psychiatric examination may be available for any prisoner that the judge sees fit to have examined. It is made upon the request of the court in the case of specified prisoners. The results of the examination are sent at the same time to the court, the prosecution and the defense."

From the director's report of the first six months' work of the clinic, the following statement is taken: "The clinic is purely advisory and is disinterested in the legal aspect of the case. It concerns itself with the individual—his mental, physical and emotional make-up—his environment, and the interaction of that individual and that environment. In order to reach an evaluation of his make-up the patient is given a four-fold type of examination: (1) A thorough physical examination by the resident physician with special attention to constitutional and neurological defects. (2) A psychological examination by the psychologist to ascertain his mental ability and to determine what can be expected of him in the terms of social and industrial adjustment. (3) A comprehensive history of the patient from relatives, friends, other agencies and individuals who have had contact with him, to learn all the pertinent facts concerning his family background, early life history, his experiences, and a detailed study of his environment, in an effort to arrive at a more thorough understanding of the patient in view of his background. (4) A psychiatric examination by the psychiatrist: The psychiatrist has two functions: to evaluate the personality manifestations of the patient, and to coordinate all the findings and from them to make a report to the judge for use in determining the disposition of the accused."

The Massachusetts system of psychiatric examination of prisoners, the Medical Service of the Supreme Bench of Baltimore, and the Behavior Clinic of the Criminal Court of Cook County have been described as types of agencies that furnish impartial psychiatric opinion to the courts. It is not pretended that these are the only agencies of their kind. The Psychiatric Clinic of the Court of General Sessions of New York City was established in January, 1932. Other similar agencies exist in other isolated localities. It would be difficult to say just what there is in the United States that might be organized into psychiatric service for courts in general. A committee of

the American Bar Association has had this matter under investigation for two years. Its report should yield valuable information.

In the future organization of psychiatric court service, the essential similarities and differences in the types of agencies described should be kept in mind, in order that the type of organization best fitted to the needs of a given jurisdiction may be devised. The agencies described have done much to bring about a more intelligent disposition of offenders. They have resulted in a saving of money. In Massachusetts and Baltimore, expensive trials with their two groups of opposing experts have become almost unknown. The criminal homicide trial that is a "battle" between two groups of contending experts is a newspaper sensation and fills the front pages for days; the much larger number of instances, in which the expense of trial is saved or reduced through nonpartisan service, do not make sensational reading and do not find their way into the papers. The most important similarity in the agencies described in their impartiality. That this feature is recognized is evident in the frequency with which the defense seeks the service of these agencies.

The service of the Massachusetts system is available to courts throughout the state; the other two agencies function only in local jurisdictions. In Massachusetts, the psychiatric examination of prisoners is a matter of routine. No question of the prisoner's sanity is raised. The mere fact that a prisoner is accused of an offense of a certain grade is enough to place the machinery in action. In Baltimore and in Cook County, the examination is initiated by the request of the court. The Massachusetts system and the Medical Service of the Supreme Bench of Baltimore are permanent agencies. They were established by legislative enactment, and can be discontinued only through further legislative action. The Behavior Clinic of the Criminal Court of Cook County is not necessarily permanent. It was established by the action of a local governmental body, and may be discontinued through action of that body.

Any discussion of the application of non-partisan psychiatry in the administration of justice must fall far short of its purpose if it does not make the lawyer and the social worker realize that the scientific student of modern psychiatry, as opposed to the "professional" partisan expert psychiatric witness, is not especially concerned in the legal guilt or innocence of an accused. He believes that the participation of the accused in the alleged crime and his relation to the latter should be legally established. But he furthermore believes that the disposition to be made of the offender should be influenced by his

mental state, as determined by careful and thorough examination. The student of the law must determine to what degree such a conception of the relation of psychiatry to the administration of justice can be fitted into our jury system. There can be little question but that this concept would result in a greater safeguarding of society than does a procedure that establishes the relation of an accused to an offense but frees him upon the grounds of temporary or impulsive or emotional insanity.

### *Police Science*

In this country the scientific policeman exists chiefly in the pages of imaginative fiction. If he attempts or pretends to make use of scientific methods in real life, he is apt to become an object of derision whose prototype is the correspondence school detective of the vaudeville stage and the revue skit. Most metropolitan police departments have bureaus of identification and *modus operandi* records of known criminals. Some are able to command the services of experts in ballistics in investigations involving firearms. The police in the larger cities may know those upon whom they may call for advice upon handwriting and technical or manufacturing processes. But any systematic application of medical and other sciences for the detection and evaluation of clues or for the apprehension of suspects is an unknown feature of every-day police practice. Laboratories of police science, like those of continental Europe, which are capable of making use of every available scientific fact and method whenever necessary, are unknown in the United States.

The nearest approach to a laboratory of police science in this country is the Scientific Crime Detection Laboratory of Chicago. Organized through the benefactions of private citizens and supported by and affiliated with a privately endowed university, it is not a part of the governmental machinery, although it furnishes its services gratis to the police agencies of Chicago and Cook County. It is an object lesson of what government should do but fails to do, and will probably continue to fail to do so long as the American system of government is dominated by partisan politics. Former Commissioner of Police Whalen, of New York City, outlined a comprehensive police college, which included a school for detectives and a laboratory of police science. But the scheme is still apparently in the outline stage and still mostly on paper.



*Medicolegal Institutes of Continental Europe*

In the United States, with the exception of a few localities that employ the medical examiner system, the application of medical science to the needs of justice occurs through the poorly functioning office of coroner in the immediate and fundamental investigation involving problems of death, injury and disease. This office is part of the governmental machinery for the administration of criminal justice, but it acts more or less independently and its activities are not well correlated with those of other elements of the machinery of judicial administration. Matters relating to the behavior and the mental state and responsibility of the individual are presented through the testimony of contending, partisan experts, who are not a part of any governmental agency, except in the comparatively few localities where a psychiatric court service has been developed. As a result of the American method of utilizing, or failing to utilize, medical science in the administration of justice, forensic medicine has made little headway in this country, either as a science of practical application or as a university discipline.

The status of legal medicine in the United States may be contrasted with that of this branch of medicine in Europe. In continental Europe, the utilization of medical and other science in the administration of justice occurs through the organization known as an institute of legal medicine. Such institutes are an integral part of the ministry of justice. Since the state also controls higher education, the medicolegal institutes are also part of the university system. The members of the staff have university rank, and the permanent tenure of office and the social position that go with such rank in Europe. The medical part of the organization functions not only in the examination of the dead victims of crime for the purpose of determining exactly the cause of death in every instance, but also in lesser degrees of injury to the person, and in the psychiatric examination of accused and of witnesses.

The director of the medicolegal institute, who generally has also the university title of professor of legal medicine, is a man of renown in the field of medical science. Usually his specialized training has been in pathology, but through the institute's staff organization, whose members also have university rank, he is able to bring to bear upon the investigation of any given case those other fundamental medical sciences that are so essential for the accurate study of injury, disease and death. The organization of the medicolegal institute therefore has ample equipment and personnel for bacteriology, immunology,

chemistry, toxicology, and general microscopy, as well as pathologic anatomy and pathologic histology, any one or all of which may be called into play in any medicolegal inquiry. The academic association makes it possible to obtain aid from other university departments in disciplines not usually or frequently required in the investigation of cases brought to the attention of the institute. In addition to those medical sciences that are so necessary in the investigation of injury and death, the organization of the medicolegal institute makes provision also for the psychiatric examination and study frequently of such importance in medicolegal cases. The division of psychiatry and abnormal psychology is one of ever growing importance in foreign medicolegal institutes. Criminal anthropology, anthropometry, and methods of human identification are not neglected.

It must be evident that the institute of legal medicine, when developed to its highest possibilities, is an active institution that requires expert direction and administration, a highly-trained personnel, and equipment adequate for the work in hand. It is usually housed in quarters whose size and character bespeak the importance and dignity of legal medicine.

The institute has a two-fold function. As an agency of government, it makes application of medical science to the needs of law and justice. It does this in an impartial manner, through the highly trained experts of its staff, and does it for the court rather than for either party to a legal action. As a university agency, it engages in research and investigation in the field of legal medicine. The published work of the European medicolegal institutes is made available to the world at large through three journals of legal medicine in German, three in Italian, two in French, and one in Spanish. As a university agency, it gives to undergraduate students of medicine such fundamental knowledge of legal medicine as it is desirable that every physician should have, and it trains graduate students for careers as experts in legal medicine.

Functioning either as a part of the medicolegal institute or as a separate organization within the ministry of justice, is the laboratory of police science. In these laboratories, scientific facts and methods are applied for the purpose of detecting crime, of evaluating and preserving circumstantial evidence, and of identifying and apprehending suspects and important witnesses. The police laboratory utilizes not only the fundamental medical sciences, but also all of the natural sciences that can in any way aid in the solution of the problems presented by crime.

*British Medicolegal Institutes*

Great Britain presents an interesting transition from the highly specialized, governmental university institutes of the continent to the condition that prevails in the United States. The state of affairs, as it relates to legal medicine in Great Britain, is interesting because the empire presents within its own confines the two extremes, and because these two extremes in the development of legal medicine are dependent upon two different systems of legal procedure.

In England, which uses the coroner system, legal medicine occupies the same nondescript position that it has in this country. What is known as medical jurisprudence, although a requirement for medical licensure, is taught by part-time instructors of junior rank, and medicolegal institutes do not exist.

In Scotland, on the other hand, the French system of criminal legal procedure prevails. Deaths due to suspected violence or to unknown cause are investigated in private by a magisterial official, the procurator-fiscal of the district. If medical examination is necessary, such examination is made by a properly qualified physician appointed to the case, or, in more populous centers, by a medicolegal examiner serving permanently under appointment by the crown. This method of procedure, as compared with the coroner system, has resulted in a much higher development of forensic medicine in Scotland than in England. A professorship of legal medicine was established in the University of Edinburgh in 1807, at the University of Glasgow in 1839, and at Aberdeen University in 1857. From their very inception these professorships have been on a full-time basis and have been held by men eminent in the field of legal medicine. The departments and institutes of legal medicine of the Scottish universities have attained an eminence equal to that of the institutes of the continent.

*Organization of Institutes of Legal Medicine in the United States*

The need for the development of legal medicine in the United States is patent and the possibilities are great. Development would be best furthered by the establishment of medicolegal institutes similar to those of Europe. The organization of such institutes, functioning at the same time both as a part of the machinery of judicial administration and as a university discipline, would certainly require changes in governmental administration, would almost certainly require enabling legislation, and would probably require changes in methods of legal procedure.

It is not necessary, however, to await drastic changes in laws that would permit the establishment of medicolegal institutes with combined university and judicial administrative relationships. Great improvement in the status of legal medicine in this country, with decided advantage to the administration of justice, can be brought about by coordination and correlation of existing medical knowledge. The facts and methods of scientific medicine are as completely known in this country as abroad. It remains only to make them available in the administration of justice. That should be possible without any very great changes in laws and methods of procedure. The development that is possible in this country would not lead to complete, unified agencies similar to the medicolegal institutes of Europe, but would probably have to occur along two, and perhaps three, distinct lines. These are, first, a more complete utilization of the fundamental medical sciences in the investigation of injury and death; second, the development of a service that would make available to courts, in an impartial manner, the best opinion relative to psychiatry and abnormal psychology; and third, the application of scientific methods in police work.

The more thorough application of medical science in the investigation of injury and death would occur through the office of coroner or medical examiner. The medical examiner offices of New York City, Suffolk County (Boston), Massachusetts, and Essex County (Newark), New Jersey, already do their work so well that it would require only somewhat more liberal financial support, in order that they might make daily use of the sciences of bacteriology, immunology, toxicology, chemistry, pharmacology, and general microscopy in their work. Under such conditions, the investigation of injury and death would be as thorough and accurate as it is abroad. Modern transportation and highways have overcome the handicaps of distance. The medical examiner offices of Boston and Newark could readily be amplified into agencies that would serve the entire state as well as they serve their own communities. The volume of work of the chief medical examiner of New York City is so great that a separate agency would be necessary to serve the rest of the state.

In jurisdictions using the coroner system, the problem is more difficult, but much could be done to further the work of judicial administration by the establishment in each state of a centralized medicolegal laboratory that would serve all the coroners of the state. Full realization of the service that such a laboratory might render would require reform of the coroner's office. The most thorough

reform would be the abolition of the coroner's office, and the subdivision of the state into relatively large examiner districts, each in charge of a competent, nonpolitical medical examiner. The boundaries of examiner districts should disregard county limits and should be determined by area, population, and transportation facilities. In the past two decades government has learned the value of efficient public health administration, sanitation and hygiene. Replacing the elective coroner of a number of adjoining counties by a single district medical examiner should bring about improvement in the administration of justice as great as that which has occurred in public health administration.

Reform of the coroner's office to the extent of abolishing it entirely appears to be something for a rather distant future to bring about. In those states where the office is a constitutional one, constitutional amendment would be necessary. In those states where the office is not a constitutional one, it will also persist much longer than it should, because it is obscure, because it receives little intelligent thought or attention, because the importance of its duties is not recognized, and because it is an elective office. The very antiquity of the office, to which are due some of its worst features, makes the office an object of veneration for some. I have in my files a letter from a prominent attorney who favors the establishment of institutes of legal medicine, but who opposes the abolition of the coroner's office because "it is one of the oldest in our legal history."

If the office of coroner is to be retained, it should be modernized. In most states the laws relating to the office were adopted at the time of admission to statehood, and they have remained unchanged in their essential features since that time. Those were the days before trolley cars, automobiles, airplanes, electricity, home refrigeration, prohibition amendments, racketeering, and gang warfare had introduced many new hazards into life; and they were the days before the condensation of population into large cities had complicated the administration of government and the meting of justice. Simply because our grandfathers lived in sparsely populated counties of a few hundred inhabitants and had no very great need of coroners, is no very good reason why counties with cities like Chicago or Philadelphia or New Orleans should continue to carry on with coroners like those of our grandfathers' days. The duties and authority of the coroner need to be brought down to date. If a state medicolegal laboratory is to render the public service that it is capable of render-

ing, the coroner system that is to use such a laboratory must have the authority to use it and must know how to use it.

In those states where the state university dominates the educational system of the state and is an important element in the cultural life of the citizens of the state, the centralized medicolegal laboratory should be a part of the state university. In its university, the state already has most of the facilities that would be required by a medicolegal laboratory. Facilities already available and activities already carried on need to be correlated, coordinated and developed in order to make them available to the agencies of judicial administration. Such a laboratory could also function as a laboratory of police science, serving the police agencies of the state. Metropolitan police departments would have to have their own bureaus of identification, and should probably have their own laboratories of police science.

### *Psychiatric Court Service*

In most jurisdictions the method of court procedure is so influenced by the contentious method of presenting expert testimony that no other way may seem apparent. But the way has been pointed out, and it needs only careful study to determine how that way may be improved and may best be adapted to the needs of a particular jurisdiction. The state-wide psychiatric examination of prisoners in Massachusetts, the Medical Service of the Supreme Bench of Baltimore, the Behavior Clinic of the Criminal Court of Cook County, and the Psychiatric Clinic of the Court of General Sessions of New York City have already been discussed as examples of agencies through which psychiatry serves justice in an impartial manner.

The American Bar Association and the American Medical Association have officially placed themselves on record as favoring the creation, in each state, of an agency like that here suggested. They have applied to the proposed organization the name of criminologic institute. The name is not so important as the service that the agency should render.

### *Summary*

The following summary is taken from Section VIII of the complete report, Bulletin 87 of the National Research Council.

*In the administration of criminal justice, certain aspects of medical science are of great importance and should receive more thorough and constant application than they at present receive*

*Medical Science, Violent Death, and Nonfatal Violence*

The determination of the cause of death, when a medicolegal question is involved, is the work of the skilled pathologist. Those whose duty it is to administer justice should be satisfied with nothing less than the greatest accuracy obtainable. If the pathologist is to do his work with the accuracy that should be required of him, he must be in position to call to his aid, whenever necessary, the resources of bacteriology, immunology, toxicology, chemistry, pharmacology, and general microscopy.

No one person can be expected to be truly expert in all of these highly technical lines, but the experienced pathologist should be able to correlate and interpret for the court the information yielded by these sciences.

In many cases of violence of a lesser degree than homicide, the administration of justice should have the same scientific service at its command.

*Psychiatry and Crime*

Determination of the mental responsibility of the accused and of the reliability of important witnesses is the work of the skilled psychiatrist. The opinion of the psychiatrist should be based upon careful examination and study and should not be influenced by the payment of a fee by either prosecution or defense.

Psychiatric opinion should therefore be unbiased and nonpartisan and should be available to the administration of justice at any and every stage of a criminal proceeding. Where it is available, such nonpartisan service is frequently sought by the defense. A nonpartisan psychiatric service would not deny the right of defense or prosecution to employ experts of their own selection.

*Science and Crime Detection*

The detection of crime and the apprehension of criminals may at times require the application of pure and applied sciences in addition to the medical sciences.

*Foreign Medicolegal Institutes and Judicial Administration*

In most of the countries of Europe, in some of South America, and in Egypt, the unification of the medical specialties for the needs of justice occurs through highly efficient organizations or agencies usually known as institutes of legal medicine. These have relations

to government, in the services that they render in the administration of justice, and at the same time they have relations to the universities supported by the government, in that they are integral parts of the university organization.

In the United States there is as yet nothing even remotely comparable to the first-class medicolegal institutes of Europe, and there is not, either in the universities or in the practical administration of justice, any science of legal medicine in the broadest and truest sense.

### *The Office of Coroner or Medical Examiner as a Medicolegal Agency*

Such use as is made of scientific medical procedures in the determination of causes of death occurs through the office of coroner or the alternative office of medical examiner. It is in most instances inadequate.

The use of scientific procedures by the coroner's office is inadequate because of the archaic character of the office, the failure to modernize the laws relating to the office, and the political nature of the office.

The office of medical examiner, which functions in a manner vastly superior to that of the coroner's office, is hampered in its use of scientific procedures by the failure of the public to realize the importance to the public of the duties performed by the office, and by the consequent failure to support the office financially in such a manner as to permit it to use all the scientific aids that might be necessary.

### *Adaptation of the Foreign Medicolegal Institute to American Conditions*

The facts and methods of scientific medicine, that form the basis of the work of foreign medicolegal institutes, are as well developed in this country as they are abroad. Our backward state consists, not in the lack of the necessary scientific knowledge, but in the failure so to organize that knowledge as to make it fully useful in the administration of justice.

Coordination of the facts and methods of the basic medical sciences and of psychiatry and abnormal psychology might be brought about in such manner as will make this important body of knowledge practically useful to society in the administration of justice.

The more technical, basic laboratory sciences could be applied through the office of medical examiner or coroner. The principles of modern psychiatry and psychology could be applied through some



agency from which the agents of judicial administration might receive unbiased and nonpartisan guidance.

### *Reform of the Office of Coroner*

*is necessary if this office is to perform in satisfactory manner its important function as the first agency to make application of medical science in suspected violent deaths.*

If the office of coroner is ever to make such use of science as it should be required to use in the public interest, drastic reform of the office is necessary and the laws defining the duties and functions of the office must be modernized to make the office fit modern conditions. Sufficient information, based upon study of the functioning of the office in different localities, is at hand to indicate that proper functioning of the office, in matters entirely scientific in character, is out of the question, so long as the coroner's office remains the obscure political office that it is, and so long as it is required to operate under the present statutes relating to it.

The organization of modern society and the complexity of the problems of urban congestion of population require an agency more efficient and more modern in its operation than an office administered by a political official, who is, in essence, owing to the laws under which he works, a combination of the country doctor of several generations ago and of the rural justice of the peace of the same period.

Proper reform of the office of coroner would lead to its complete eradication and to the distribution of its duties among agencies better qualified to perform those duties. Such agencies would include the office of medical examiner for the medical duties. A mere change in name from coroner to medical examiner, which has been proposed in some quarters as a reform, would be a useless gesture, if the official termed by legal fiat a medical examiner had to operate under the laws that at present apply to the coroner.

If abolition of the coroner's office is not feasible, because the office is a constitutional one and the state constitution cannot be readily amended, or because of veneration for the things of antiquity, or because of other reasons, the office could be modernized, first, by making the coroner simply an elective administrative official, and by creating for the office, as chief deputy coroner, a medical officer serving continuously under civil service, and by transferring the present inquisitorial duties of the office to the prosecutor's office or to some other agency better qualified than is the coroner's office for the performance of technical legal procedures. And secondly, the laws relating to the duties and authority of the office would have to be revised

in order that the duties and authority might be clearly and specifically defined.

### *Adequate Financial Support Necessary for Scientific Work*

But neither such a reformed coroner's office nor the alternative office of medical examiner should be expected to perform its duties in scientific manner unless the financial support of the office is such as to enable it to use the necessary scientific procedures whenever required in the interest of the public.

A budget that might theoretically be adequate for good scientific performance of the medical duties of the office would be an item of political extravagance, unless the medical duties are performed by a trained official, it matters not whether he be medical examiner or medical officer of the coroner, serving under civil service or long time appointment.

### *Investigation of Nonviolent Deaths*

The statistical table included in this report reveals that in the jurisdictions studied, with the exception of Cook County, Illinois, from 12 to 21 per cent of all the deaths occurring in the jurisdiction are referred to the coroner or medical examiner. Only 1.6 to 6.5 per cent of these deaths are homicidal, and deaths due to all forms of violence, including casualty, make up but 40 to 57 per cent of the total. From 43 to 60 per cent of all the deaths referred to the coroner or medical examiner result from natural causes.

### *Authority of Coroner in Nonviolent Deaths Not Clearly Defined*

Although the coroner or medical examiner is called upon to assume the responsibility for making out the death certificate in a group of cases amounting approximately to from 7 to 10 per cent of all the deaths in the jurisdiction, the functioning of the coroner in such cases seems to be without very clear legal warrant in most states. By a not too strict interpretation of the statutes he might be permitted to view the bodies of those whose death is due to unknown causes but not due to violence. But in practically every state the statutes are so framed as to limit the coroner, in the use of the only procedure by which a cause of death may be accurately determined, namely, the necropsy, to deaths due to violence. The laws relating to the medical examiner define the duties and authority of this official much more clearly.

Some agency of government is necessary for the investigation of nonviolent deaths, when a licensed physician has not been in at-

tendance. Only through the careful scrutiny of such deaths can there be any assurance that deaths due to unlawful means are not escaping detection and that the vital statistics relating to death will not be vitiated by a large factor of error.

That the registrar of vital statistics may authorize the issuance of a death certificate in nonviolent deaths due to unknown causes is no solution of the grave problem presented by such deaths. The vital statistics bureau is an office of record, and has neither the authority nor the personnel to determine causes of death. To give it the necessary authority and personnel would be a duplication of governmental machinery, and would result in the establishment of one agency, the office of coroner or medical examiner, with authority limited to violent deaths, and another whose functions would be limited to nonviolent deaths of unknown cause, some of which deaths might upon investigation prove to be due to unlawful means. All that would be necessary for the solution of what might prove to be a serious problem, if coroners restricted themselves to the duties at present prescribed by law, would be a clearer definition of the duties and authority of the coroner in deaths resulting from unknown causes.

### *Nonpartisan Psychiatric Court Service*

A nonpartisan psychiatric service for the guidance of courts, prosecutors, and other agencies of justice has received even less attention in this country than has a scientifically conducted thanatologic service. The psychiatric service made possible under the laws of Massachusetts, and the service rendered by an efficient medical examiner's office indicate clearly that it is possible to make available to the agencies of judicial administration the necessary facts and methods of scientific medicine.

### *Need for Educational Propaganda*

Before the possibilities for the future development of legal medicine can become actualities, it will be necessary for the medical profession to become educated to a realization of the service that it should and must render to law, and for the legal profession to become educated to a realization of the aid that it should and must receive from medicine. It is futile to expect aid from the lay public, which must authorize changes in laws and must support the practical application of legal medicine to the needs of society, until the two professions most vitally concerned shall have become cognizant of their own share in the future development of legal medicine.