

ARTICLE II.

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MEDICAL JURISPRUDENCE.

BY HENRY GRAFTON CLARK, M.D.

OF BOSTON.

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READ AT THE ANNUAL MEETING, JUNE 3, 1868.\*

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MR. PRESIDENT AND GENTLEMEN :

For the first time in the history of the Massachusetts Medical Society its Fellows are assembled within the walls of an edifice† which has been erected for purposes, and is hereafter to be devoted to objects, entirely in harmony with those for which the Society itself was organized; namely, the treatment of disease and the advancement of the cause of medical education.

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\* At an Adjourned Meeting of the Mass. Medical Society, held Oct. 3, 1860, it was

*Resolved*, "That the Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

*Resolved*, "That the Committee on Publication be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

† The new operating theatre of the Massachusetts General Hospital.

Permit me, then, to congratulate you on the auspicious circumstances under which we this day meet ; and, in the name of the Trustees of the Massachusetts General Hospital—who, I know, will excuse me for the liberty—to whose liberality and enterprise we are indebted for this spacious and convenient amphitheatre, and in behalf of my colleagues and myself, its Physicians and Surgeons, to extend to you now, as we shall at all times be happy to do, a most cordial welcome.

For it is indeed most fitting that this structure—the necessary and healthy outgrowth of an institution which, on the fourth of July next, enters upon its second half-century—should be thus honored at its inauguration by the presence of an Association, to the members of which it is so greatly indebted for what it has accomplished in the past, and for all that it may hope to achieve in the future.

It would be ungracious, while we thus welcome you to this our new theatre, should I omit all expression of passing regret that we have taken our final leave of the classic old place endeared to us by so many interesting recollections, and which has been for so many years intimately associated, in the minds of most of us, with the history and progress of the surgery and surgeons of New England and of the country.

But there is one event in this retrospect which, more than any other of the eight thousand operations which have been performed in that theatre, will keep the memory of it forever green. I

mean of course the final demonstration of the properties of SULPHURIC ETHER, the simple report of which I have extracted from vol. 30, p. 446, of the Surgical Records of the Hospital. It is as follows : " The patient, Alice Mohan, was carried to the operating theatre at 11 o'clock. Mr. Morton's preparation was exhibited. In three minutes the patient was under its influence completely. The artery was compressed by Dr. J. M. Warren and the thigh amputated by Dr. Hayward. With regard to the influence of the preparation inhaled, the patient asserts that she was entirely insensible until the last ligature was tied." Thus quietly but perfectly was that great discovery verified and demonstrated, for which, in the words of Sir Benjamin Brodie, all physicians and surgeons have been looking in vain from the days of Hippocrates to the present time.

Salient beyond almost all others the great fact will forever remain to us ; and, like the bow of the Covenant, will safely span, with its many-hued radiance, that yet unknown and unmeasurable space from that earliest recorded time when " the Lord God caused a deep sleep to fall upon Adam, and he slept ; and he took one of his ribs, and closed up the flesh thereof ; " to the period of the fulfilment of that sublimer promise and that diviner hope of man — " Neither shall there be any more pain " !

But the world does not yet know, nor will it, until the true history of the use of Ether in this case comes to be written, how near to a lost opportunity this was ; nor how much it was indebted for its triumphant success (I believe I violate no confidence in say-

ing so) to the sagacity, the adroitness, and the energetic remonstrances, against the obstructive etiquette and red-tape which imperilled everything, of the then junior, and now senior, surgeon of the Hospital, Dr. Henry J. Bigelow.

I feel that I am already anticipated, in your thoughts, when I pronounce in your hearing, and in this connection, the everywhere well-known and time-honored names of JAMES JACKSON, and JOHN COLLINS WARREN; who may truly be said to have been, not only the founders of the Massachusetts General Hospital, but its creators; to whose foresight, sagacity, and enterprise—to whose magnetic and dominating personal influence—to whose high professional attainments—to whose unwearied fostering care and skilful administration—it is indebted for the high rank it so early acquired, and the reputation it has since maintained.

With a personal assiduity that never tired—with a single-hearted devotion to the hospital and to its inmates, which yet never forgot the interests of medical education—they walked its wards, and dispensed, each in his chosen department, during a prolonged term of service, for the benefit of those under their charge, the highest resources and appliances of the arts of medicine and surgery; and thus, by their teachings and example, fitly taught and trained those who followed their footsteps, listened to their teachings, and witnessed their operations.

Upon the sons of both we all know how worthily their mantles fell: one of them,\* alas! for us too

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\* Dr James Jackson, Jr.

early snatched from our justly exalted hopes and expectations ; the other,\* spared to us until, as it seems but yesterday, he too, in the meridian of his days and usefulness—his accustomed instruments scarcely laid aside from his latest operation, and as calmly as if he had not seen the angel of death advancing straight upon his path ; never faltering or failing in the performance of his every duty—was at last compelled to yield, and sank down to that sleep from which there is no waking.

Although I am conscious that the moments of the brief hour—for the distinguished honor of occupying which I am afraid I am indebted to your overestimate of my ability to interest you—are rapidly passing away, I cannot forbear to remind you, even at some personal peril, of the various orators who have preceded me. I need but speak their names to recall to your recollection the subjects of their discourses ; or the titles of them, to bring, in bodily presence before you, the familiar faces and forms of their authors.

As the progress of time, and the succeeding procession of more recent events, are day by day and year by year removing into the increasing obscurity of forgetfulness the things which are past, it is well sometimes to look back and thus revive the memory of them. This retrospect, however, useful and interesting always, is not to him who is to stand in this place, for the time being as your orator, very reassuring. It is nevertheless quite suggestive—stimulating him to make the effort to follow, even at ever so humble a distance, such distinguished precedents, and

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\* Dr. J. Mason Warren.

at the same time awakening him fully to the consciousness of his temerity in making the attempt, and warning of its very possible failure.

For myself, the best remembered, and to my mind that most worthy of remembrance because of its originality, its truthfulness, and its utility, was the one that I first had the pleasure to hear—that of Professor Jacob Bigelow, upon Self-limited Diseases: a paper, which it is safe to say, has accomplished more in enlightening the medical profession and reforming its practices in regard to the subjects of which it treated, than any and all other treatises, however long, which have ever been written.

The paper of Dr. John Ware, on Delirium Tremens, proved not only the self-limited nature of the disease, but also the entire inutility of all remedies in arresting the course of it, or of even abating its symptoms. Once remarking to me, as I well remember, that if opium, the then fashionable remedy, was given in sufficient doses to enforce sleep the patient would never awake again; he added also the statement that, in his opinion, if the disease was uncomplicated and its progress not interfered with by treatment, recovery from it should be generally expected. And although, since its discovery, Ether has frequently proved the efficient means of cutting short the attack in the milder cases which occur in a certain class of subjects, experience has fully confirmed the general soundness of his opinions as then announced. His address upon The Duties and Objects of the Medical Profession was, as were all his writings, full of his habitual practical wisdom.

Of all the good lessons taught us by Dr. James Jackson, the universally beloved Nestor of the profession, none will be longer or more appreciatingly remembered than those classically simple but wise words of advice to a young physician. And although, having arrived at an age prolonged far beyond the ordinary term of human life, the laws of which none knew better, he has forever passed away,

“ Calmly, as to a night’s repose,  
Or flowers at set of sun,”

we shall never forget his venerable and benignant form, as he lived and walked among us ; nor should we too much grieve that a life so perfect and complete in all its years has at last rounded to its close ; for we know that,

—close beyond the darkness of the cloud  
Which for so long has hid him from our eyes,  
Like Enoch’s chariot of golden fire,  
*In wait for him the glorious sunshine lies !*

But I have no need to attempt words of eulogy when they have already been so fitly said by his learned, eloquent, and venerable compeer\*—and said and sung so well by one whom we always delight to hear and to honor—his kinsman and his friend ; † by one who, as a true poet, has interpreted for us, in living and burning words, the sentiments and emotions we had not the power to speak or express, and which but for him would have remained forever unspoken and unexpressed.

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\* Dr. Jacob Bigelow.

† Dr. Oliver W. Holmes.

The hereditary standard of his professional fame we know will suffer no abatement during the life of him, who has in every way, personally and professionally, so well sustained his honored name ; and about whom Dr. John Ware years ago very pithily said, there was nothing morbid but his modesty.

Of the several discourses upon the Condition, Prospects, and Duties of the Medical Profession, and on related subjects, which have been pronounced successively by Drs. Reynolds, Ware, Wyman, Shattuck, and Wakefield, it only need be said, that they each, according as it has pleased them, have so thoroughly explored the field, spreading out before us its ample stores of knowledge—and these all have been so well analyzed by Dr. Morrill Wyman in his excellent address on Certainty in Medicine—that gleaners after them will find a harvest of but scanty sheaves.

That of Dr. Edward Reynolds, our Magnus Apollo, will be well remembered for the honestly indignant and hearty attack which he made upon the false doctrines and the delusive theories of Hahnemann and the Homœopaths. I believe that he has since thought it not to have been practically effective. That was the naturally-to-be-expected result of fighting a folly and a phantom !

Dr. J. Mason Warren, in his resumé of the progress of surgery for the last thirty years, has given us a compact, and so far as was practicable within the ordinary limits of the annual address, a complete account of the principal improvements which have been introduced into the theory and practice of the art, during that period, both here and abroad ; and in his

Surgical Observations, a work completed during the last months of his life, he has given us many of his own cases as illustrative of his opinions, and of his most important surgical operations.

A most life-like and interesting notice, with a sketch of his more salient characteristics, published shortly after his death, by his classmate and friend the Professor of Anatomy in Harvard College, together with the very just and discriminating resolutions in regard to him drawn up by Dr. Henry J. Bigelow, for his colleagues at the Hospital, have rendered anything I could further add superfluous.

Dr. Cotting, in his address before the Society, appears to have faithfully followed the advice of our late lamented president, Dr. Augustus A. Gould, in his admirable address upon the study of natural science—the letter and spirit of which he had himself so thoroughly carried out—although he has interrogated nature in some of her least attractive moods.

Whether, according to Dr. Cotting, disease was a part of the original plan of creation; whether it was the result of a radical change in a plan originally perfect; or whether, if so, the change is to be attributed to divine or human intervention, are questions which, as the greater includes the less, may perhaps be settled when the Theologians have agreed among themselves with regard to the mooted question of the Divine origin of evil. Dr. Cotting has, however, certainly shown himself, as viewing them from his own standpoint, a most competent advocate of his announced opinions.

Dr. Luther V. Bell's thoroughly practical discourse

on Ventilation was an advance in a most useful direction ; and equally demonstrative of the philosophical qualities and the inventive mechanical knowledge for which he was so distinguished. It is to be regretted that such doctrines as those enunciated by Dr. Bell, and by another of your orators, Dr. Morrill Wyman, have not had a larger influence on those who are usually entrusted with the construction especially of our public buildings, and who, in such a self-complacent way, assume the exclusive use of the term *practical* as applied to themselves, to the exclusion of professional men whose opinions they affect to hold in contempt.

Of Dr. Holmes's Currents and Counter-Currents in Medical Science, what shall I say? but that the play and sparkle of its brilliant words and expressions, that so rapidly chased and displaced each other, as the completed sentences fell upon the eager and listening ears of his auditors, were but the attractive surface-rippings of a vigorous under-current of a strong common sense, and of truths, to make the doses of which palatable, in the opinion at least of some of his brethren, needed all his skilful manipulation. For, in truth, when one's faith in his own preconceived notions is so shaken by the winds of doubt, the pill must indeed be well gilded, in order that it may be comfortably taken. But time, which brings its convictions, as well as its revenges, I believe has satisfied most of us that if a great many of the drugs in common use were thrown into the sea, it would be as much "better for us as it would be worse for the fishes!"

The discourse of Dr. William J. Walker, upon Compound and Complicated Fractures, and that of Dr. George Hayward, upon Diseases of the Joints, constitute the only remaining addresses upon surgical subjects. That of Dr. Walker was a masterly and exhaustive exposition of doctrines which were considerably in advance of the surgery of the day; and in the discussion of which he proved himself to be as profound and careful an observer of the reparative processes of nature, as we all knew him to be skilful in the practical operations of surgery. His retirement from the profession at the high tide of his opportunities for usefulness was an event to be regretted.

There are other discourses which might have been touched upon, had not this sketch, imperfect as it is, perhaps already detained you too long; but there is one more, that of Professor D. Humphreys Storer, upon Medical Jurisprudence, to which you will I know permit me to allude, because, after reading it lately, its subject has suggested itself as one to which the attention of the Society might again be profitably directed.

In the hope simply of supplementing the address of Dr. Storer, in some untouched points, I ask your indulgence during the remainder of our time to some suggestions in regard to the desirableness of a more extended study of MEDICAL JURISPRUDENCE, and to some reasons why its study should be more closely connected with that of GENERAL SANITARY LAW.

From the earliest times to the present day, Medical Jurisprudence, especially when inclusive of Sani-

tary Law, has been more or less a subject of interest and of action to legislators and physicians. In the Laws of Moses, in the Code Napoleon, and in frequent intermediate legislation, the principles so long ago enunciated in the old Latin motto, *Salus populi suprema lex*, have been constantly and duly recognized.

According to Foderé, excepting sanitary laws which were derived from or suggested by the Mosaic Code, Legal Medicine was limited to a knowledge and practice of the art of *reporting* "*en justice*," that is, in aid of justice ; which report is defined by Orfila to be an instrument or document drawn up by one or many individuals (doctors of medicine, surgeons, health officers, chemists, sages-femmes, etc.), *at the request* of the judicial or administrative authority, and *under oath* to state certain facts, to detail them with care, and to deduce the consequences.

Foderé tells us that the body of Julius Cæsar was exposed, all bloody as it was, to the eyes of the public ; they examined his twenty-three wounds ; and one only was judged to be mortal by one named Antistius, who dabbled in medicine ; and it was that which had penetrated the chest, between the first and second rib.

In the age of Charles V. and Francis I. of France, an ordinance was passed requiring the courts to call physicians to their aid in cases which they could not otherwise understand.

Up to this time—I translate from Foderé—physicians and surgeons had been called, indifferently, to report to the courts ; but in 1606, Henry IV. gave

letters-patent to his physician-in-chief, by which he conferred on him the right to name two surgeons in each city, and one in each considerable town, to make the official reports of the wounded, killed, mutilated, etc., to the exclusion of other surgeons. This law, it must be observed, as the surgeons in those days were very inferior as a class to the physicians, excluded from this service to the State nearly all of those who were best qualified for it. As a necessary result of this state of affairs, the science of Legal Medicine, imperfectly as it was then understood, fell into disrepute; in fact the functions of the law already referred to assigned to them duties which might have been perhaps quite as appropriately required of coroners as of medical jurists.

Paul Zacchias, whose precepts on Legal Medicine were printed in 1621, at Rome, and the renowned surgeon Ambroise Paré, the first writer on the subject, fifty years later in the same century, seem each to have collated and arranged in a codified form all that was previously known of the science—Paré's work especially becoming and remaining the sole authority as a text-book for more than a century. But from this period, it was not until near the beginning of the eighteenth century that any systematic and comprehensive treatise upon the subject was written, or that, either in France, England, or Germany, it was deemed of sufficient importance to establish for it a professorship. Indeed, Dr. Taylor, speaking on this subject, says, that in John Hunter's time Medical Jurisprudence was unknown. But Foderé's book, entitled "*Les lois éclairées par les*

*physiques, ou Traité de médecine légale et d'hygiène publique,*" proves that he at least comprehended the interest and importance of the subject ; and he was far in advance of his time.

Orfila divides the science of Medical Jurisprudence into two branches, defining them as follows : " All which tends to preserve the public health, to favor the vigor of the population, to insure life and liberty to the citizen, appertains to *medical police* or *public hygiene* : also the examination of the air, water, and localities, of food and drinks, of habitations, of prisons, of epidemics, of epizootics, etc. etc., belong to to the domain of that science. Legal Medicine, on the contrary, occupies itself with causes carried before the tribunals and the courts of justice."

Mahon agrees with Foderé, in defining Legal Medicine in such a way that it includes public hygiene also, viz., as an art which applies the knowledge and principles of the diverse principal and accessory branches of medicine, to the composition, illustration, and interpretation of the laws.

The two best books of our time, which have preceded the very elaborate work of Dr. A. S. Taylor, are by American authors, although I think both were first published abroad ; Dr. Beck's, on the general subject, and Dr. Ray's treatise, as yet unrivalled, on the Medical Jurisprudence of Insanity. Dr. Taylor's definition of Medical Jurisprudence, which I give as that of the most approved modern authority, although it does not expressly include, as you will observe, the law of public hygiene, and although no reference is made to it in his work, as in the works of Foderé,

Mahon, and as it is recognized in the famous Code of Napoleon, is yet perhaps one of the best that can be given. It is as follows : " Medical Jurisprudence, or, as it is sometimes called, Forensic, Legal, or State Medicine, may be defined to be that science which teaches the application of every branch of medical knowledge to the purposes of the law : hence, its limits are, on the one hand, the requirements of the law, and on the other, the whole range of medicine. Anatomy, physiology, medicine, surgery, chemistry, physics, and botany, lend their aid as necessity arises ; and, in some cases, all these branches of science are required to enable a court of law to arrive at a proper conclusion on contested questions affecting life and property."

Having thus noticed the very various methods of defining the bounds, and of pursuing the study of the science of Medical Jurisprudence, let us consider whether that definition which is the most comprehensive is not also the simplest as well as the best ; and whether, with Foderé and Orfila, admitting the natural division of so extensive a subject into the two branches of Legal Medicine and Sanitary Law, we shall not agree that both may be very properly included in the larger department of Medical Jurisprudence.

It has always seemed to me remarkable that the subject of Legal Medicine, leaving out of the account now that of Public Hygiene, should in most of the schools be made so subordinate and be rated of such small importance as compared with the other courses usually taught ; being attached, apparently

as a pendant, usually to the chair of Obstetrics, and sometimes to that of Chemistry. Now this appears to be reversing the convenient and proper order of things, and there does not seem to be the slightest propriety in thus making the greater subsidiary to the less.

Notwithstanding the great changes and advances which have taken place with regard to the practice of the principles of Legal Medicine since the beginning of the present century, the services rendered by medical men as *reporters*, after the original manner of its earlier methods, for the coroners at inquests, are still of the highest importance.

In the case of alleged MURDER, for example: after the discovery of the *corpus delicti*, as it is called, and without which no trial can well go on at all, the first step in the case is to ascertain, by a post-mortem examination of the body, what is the cause of death.

In many cases this is easy; in others, very difficult; and while a witness, especially a medical expert, is not responsible for the consequences of his investigation, and has nothing to do but to observe carefully, and to report all the facts as he may find them, in the plainest and simplest way, avoiding as much as possible all technical expressions and professional phrases, giving at the close his general judgment and opinion on the same; he will never be able entirely to divest himself of the reflection that the whole case, carrying with it the fate of the guilty party, but, what is of more consequence to the community and to the course of justice, a righteous or unrighteous verdict, is dependent upon the manner in which he has discharged this duty.

If the death has been occasioned by any obvious violence, such as that inflicted by heavy machinery, by falls from a great height, or from any large and patent external wounds, as in shooting or stabbing, his task is comparatively simple. But even here arise secondary questions, the determination of which is often quite as important, viz., whether the death be accidental, homicidal, or suicidal. The answer to these questions is sometimes beyond the power of the medical witness, and must be obtained from collateral evidence. Is the body supposed to be that of a drowned person? In the absence of a full knowledge of the circumstances of the drowning, it will be his duty to ascertain if it was alive and uninjured when it was immersed.

In other cases, where there is no obvious cause of death, and there are no external appearances or circumstances to give any suggestion, the case will require a further and more careful investigation to determine it. In the absence of evidence to the contrary, the death may of course be due to natural causes. Is it in this class? If not, and no fatal lesion is discovered, such as rupture of some of the abdominal organs, as the liver, spleen, or kidneys, all of which may occur without leaving any external trace of injury, he next inquires if it is from poison? If so, what is the evidence which will determine its effects, and prove its character? If we recur to death from violence, what are the distinctions between homicidal and suicidal wounds? If there are several wounds, which of them are necessarily mortal, and which of them are not?

These are but a few of the questions to be decided, and only examples of the points to be examined in such investigations, and which it is evident require for their settlement, always, professional and scientific acquirements of the highest order.

Such an inquiry implies that the investigator should be not only a physician, but a physiologist, a pathologist, a surgeon, and a chemist; and that he shall be able to reason accurately and well upon the premises given, and to deduce therefrom conclusions which must be defensible as well as sound.

In the natural division of the healing art into the three branches of medicine, surgery, and chemistry, we may easily find men who may be considered as experts, and be quoted as authorities in their respective departments; but as Foderé well remarks in substance, that, as it is extremely rare that the same man has such universal knowledge, it is necessary sometimes that the two should sustain and mutually aid each other; and that they should also call to their aid the pharmacien, the analytical chemist, or the lights of natural science, whenever a suitable occasion arises therefor.

If we admire the skill and science of the anatomist who can recognize, dissect, and describe the most intricate structures of the human body, and explain their relations to each other; how much more worthy of admiration is the comparative anatomist and microscopist, who can, in aid of justice, from the charred and crumbling fragments of bones, rescued from the fiery furnace to which they had been consigned by the hand of crime, determine with certainty their

character, and re-assemble them in their appropriate places in the skeleton of which they originally formed a part ; of that wonderful triumph of chemical analysis that can extract the mortal poison from the long buried cadaver, and demonstrate, to the satisfaction of a court of law, its presence therein !

In connection with this branch of Legal Medicine, all those questions which relate to infanticide and criminal abortion are to be considered. These involve again many other considerations, such as can only be fully comprehended and expounded by an obstetrical expert, who can observe critically, and analyze skilfully, all the nice and intricate inquiries which relate to utero-gestation, the viability of infants, etc., and who are, by their especial training and studies, peculiarly fitted to give opinions in many matters which occupy the civil as well as the criminal courts. The questions of survivorship of mother or child, in cases of death during parturition ; of legitimacy and of hereditary rights as dependent upon a great variety of circumstances ; are often practically decided upon opinions derived from the personal knowledge and experience of such witnesses.

The subject of SUICIDE follows naturally in the shadow of that we have just discussed, and many of the points to be considered are of course identical with those which relate to murder. They are in some particulars, however, more difficult of solution. Suicide, like murder, is usually a secret act, but, unlike that crime, is often concealed from every human being, while the murderer often involuntarily aids, by his subsequent acts, in his own pursuit and detection. There

are, however, many exceptions to this rule: as suicides sometimes beforehand avow their intention, or leave behind them some written confession; even if they have not, in the last repentant agony of death, proclaimed the cause, and explained the means by which, and the motives on account of which, the act has been committed.

Insane suicides, who of course are wholly irresponsible and blameless for their acts, often do the deed with a deliberation, determination and secrecy, which defy the sharpest vigilance of their custodians. To be sure, sometimes the act of suicide is the first evidence of insanity—some writers and authorities, indeed, holding the belief that all suicides are insane acts; but this, for many reasons which are deemed sufficient by those best qualified to judge, is not now the generally received opinion.

But a discussion of this single part of the subject of suicide opens the broader and more interesting field of the Medical Jurisprudence of INSANITY—I say *Jurisprudence* in its wider sense, as distinguished from that narrower sense in which we discuss the subject of murder in its relations to the criminal law only, because, in this view, it is a subject which touches all classes of society. Insanity visits the palace as well as the hovel; it seizes indifferently upon the parent and the child, the husband and the wife, the scholar and the clown; is both accidental and hereditary; and, as shown by the laws enacted and the custodial and remedial means adopted for the care and treatment of the subjects of it, a matter worthy of the gravest consideration; and therefore the propriety, necessity and

humanity of making the medical treatment of the insane a profession by itself, have indeed for a long time been conceded.

The questions of injuries to the person, such as assaults and batteries—those relating to property—of competency to hold and bequeath property—are all interesting, and quite worthy of a discussion which must be denied them here.

Life Insurance is one of the most important of these interests, and one which is daily and justly attracting to itself the attention of some of the best men in the profession, while those who have charge of the subject are to be congratulated that their useful plans and acts have thus far been so ably seconded and supported.

Finally, the art of testifying in court usefully and properly is one which is of itself a study. Some great men make indifferent witnesses, while others of inferior capacity often testify very well.

A medical witness should know beforehand, if he testifies as an *expert*, the principal points of the case upon trial; and he ought to be acquainted, not only with the facts which are supposed to favor the side upon which he is summoned, but also, if possible, the theory of that of the opposite party. While he ought to avoid any bias or partisanship, and, as a scientific witness, seek to elucidate the truth only, he will do well to remember, that, while he will be examined in chief by questions which do *not* suggest their answers, upon the cross-examination almost all the questions will be what are called *leading*, and he will be in danger of being made to contradict himself, and to be enticed away from his real opinions.

With regard to the point whether medical witnesses can be compelled to give opinions in cases with regard to which they have had no previous knowledge, Lord Campbell decided that if he knew of any *fact* he might be compelled, but that he could not be compelled to give his attendance to speak to matters of *opinion*. Mr. Justice Maule says: There is a distinction between the case of a man who sees a *fact*, and is called to prove it, and one who is called as an *expert* to give his opinion. The former is bound to do it; *but the latter is under no such obligation*; and the party who selects him must pay him.

If now, gentlemen, without pursuing this part of our subject further, we turn our attention, even briefly as we must, to the more important branch of it known as PUBLIC HYGIENE, we cannot fail to observe how vast is the field, how abundant the promise of its harvest; and yet how comparatively few are its reapers!

AS LEGAL MEDICINE deals with individuals only, and not *en masse*, SANITARY LAW deals with the masses of the community, and not with its individual members; and it is therefore capable of being administered upon a grander scale, and of yielding correspondingly greater results.

It takes cognizance of climates and localities; of drainage, ventilation, and of habitations; it looks to the safety of public buildings, of transportation by sea and land; of pleasure-grounds; of the markets; and in fact of all those means and measures which are best calculated to secure for the people the greatest good to the greatest number. Considering human

life as a FACT, it counts the number of births, and, comparing them with the deaths, estimates the net gain to the population.

It examines into the causes of the deterioration and destruction of human life; and contrives means and measures to avert, ameliorate, or postpone them. It brings within its purview, and recognizes as among its most appropriate functions, the duty of providing for the people the means of enjoying, to the fullest extent and for the longest possible time, that gift of life, which increases in value in a direct ratio, as it is multiplied by the number of times one life is contained in the whole mass of lives. Its proper administration bears the same relation to the practice of Legal Medicine, as the preventive does to the correctional police.

Having already seen how many things are essential to a proper knowledge of LEGAL MEDICINE, it is evident from this imperfect exposition of the functions and requirements of SANITARY LAW, that its knowledge implies attainments of a still higher kind; and in its administrators, qualities of the highest order. They must be familiar with climates and the history and laws of epidemics; must know the laws of population as affecting human life in its masses; and must study the laws of life and death, not only with Bichât and the physiologists and philosophers, but with the geologists, the engineers, and the staticians.

To administer it well, requires a capacity enlarged by experience; a judgment sharpened and broadened by the many-sided opportunities of general practice; and combined with the philanthropy of

Howard the executive qualities of a good fighting general:—and finally, like our brethren, Professors Ordronneux and Storer Junior, to have studied law as well as medicine.

SANITARY LAWS which shall efficiently protect society against all the causes which endanger its safety *can only be properly enforced by Medical Men*, and by properly constituted BOARDS OF HEALTH;—and the people of this State must therefore look to the members of the profession as represented and embodied in this Society, as their only competent guides; who, if true to themselves, may thus rightfully assume the higher functions of expounders and illustrators, if not of legislators and executants of this great department of MEDICAL JURISPRUDENCE.

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Since the last meeting of the Society, twelve of its members have died; six of them in Boston. Four of these, Dr. James Jackson, Dr. Henry H. Childs, Dr. John Homans, and Dr. J. Mason Warren, by a remarkable coincidence, almost within sight of the residences of each other—four men, I am sure, whose combined influence in the Society and in the profession cannot well be overestimated, and whose aggregated fame is not surpassed by any other equal number of its Fellows, living or dead.

Of two of these I have already spoken;—of the others, again with reverential hands we lift the funeral palls, to take one parting look, and refresh our memories with pleasant recollections of the strong