

**Introductory lecture to a course on forensic medicine, delivered in the Anatomical Theatre of St. Bartholomew's Hospital / [Sir George Burrows].**

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# INTRODUCTORY LECTURE

TO

A COURSE

ON

# FORENSIC MEDICINE,

DELIVERED IN THE

ANATOMICAL THEATRE OF ST. BARTHOLOMEW'S HOSPITAL,

NOVEMBER 1831,

BY

GEORGE BURROWS, M.D.

FELLOW OF CAIUS COLLEGE, CAMBRIDGE,

CANDIDATE FOR A FELLOWSHIP OF THE ROYAL COLLEGE OF PHYSICIANS,  
LONDON.

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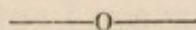
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## INTRODUCTORY LECTURE.



GENTLEMEN,

Appearing in the Medical School of St. Bartholomew's Hospital, as a public teacher upon a branch of science hitherto much neglected in this, and but very recently regarded in any other medical school in this metropolis, I feel the responsibility of my situation, and the difficulties which surround me in making this course of lectures as instructive as I could desire, and as interesting as the subject admits of.

Standing beneath the bust of our lamented and distinguished teacher\*, who almost founded this school, who once adorned this chair with talents which few can hope to possess, whose originality of thought, extensive stores of information, and peculiarly happy manner of expressing himself, attracted to this theatre crowds of students from every part of the British empire—standing in the place of such a master of his art, I shrink within myself, lest any one here should be led to make comparisons with the individual who now has the honor of addressing you.

The other branches of medical and surgical science have long been taught in this school by able and eminent men. Some, gifted with ready powers of eloquence—others, familiarised by a constant and persevering devotion to their peculiar departments of science, and by long experience in the art of teaching—are enabled to communicate their knowledge with facility and perspicuity. I can boast of none of these advantages, and have therefore many reasons to claim your indulgence.

To those around, who are pupils of St. Bartholomew's

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\* A bust of John Abernethy has been recently placed in the anatomical theatre of St. Bartholomew's Hospital.



Hospital, I could wish to participate a share of the gratifying feelings I now experience, in being raised to this honorable station, from which I now address you for the first time. Twelve years ago I entered this medical school as a student, animated with the same hopes, and influenced by the same feelings as yourselves. I trust that nothing but a patient and continued application to the various branches of medical education on my part, has induced those, with whom this appointment rested, to allow me to advance from the ranks of the student to the chair of the teacher.

Be assured, my fellow pupils, that the same road is always open to you, and that similar well-directed exertions will infallibly lead you to corresponding success. Your studies indeed are already various and difficult. This course of lectures on forensic medicine is an additional labour imposed upon you: but let not this discourage you, nor let any feeling of hostility spring up against those who require more knowledge at your hands before they grant you the licence to practise your profession. Remember that knowledge is power. With an increase of knowledge, your sphere of doing good is extended; you are raised so much higher in the estimation of the educated classes of society.

I cannot allow this opportunity to escape me of paying a public, but humble tribute of approbation to that corporate body under whose superintendence is placed the direction of the education of so large a portion of the medical profession.

Before the Court of Examiners of the Society of Apothecaries was appointed by act of Parliament in the year 1815, one branch of the medical profession was notoriously deficient in the essential qualifications for practising the healing art; and in a corresponding low degree of estimation with the public of this country. The medical attainments of this class of practitioners were then little more than a knowledge of pharmacy and a few empirical notions



on the treatment of disease, acquired during a long and almost useless apprenticeship. The Act which empowers this Court of Examiners was obtained by the united exertions of an association of general practitioners, who felt the deficiencies in the medical education of their own branch of the profession.

The active and indefatigable Chairman of that association, I shall always be proud to say, was a near and dear relative of mine. If that individual had done nothing else for raising the character of this branch of the profession, and had conferred no other benefit on society in general, than the improvement of medical education, I should not hesitate, I hope with becoming modesty, to declare, that his name ought never to be forgotten by his professional brethren.

The powers vested in that Court of Examiners has been exercised wisely and judiciously. The standard of medical education of the apothecary, and, with education, his place in the estimation of society, have been gradually raised to a rank more in accordance with the advanced state of knowledge of the present age, and more becoming the condition of one, to whom such important and confidential duties are entrusted. Within a short period, that Court has evinced a tendency to raise the standard of education very rapidly, and to demand qualifications perhaps more than requisite for the ordinary duties of medical practice. They should reflect, that a competency of knowledge is sufficient, and that, by expecting too high attainments, they not only increase expenses, and impose unnecessary difficulties on the education of the general practitioner, but may raise him above the sphere where he is generally called to act, and where he will be most useful.

The general practitioner, who intends to fix himself in this metropolis, or in any populous town, may ultimately obtain a reputation and extent of practice which will amply compensate him for the time and capital expended in qualifying himself for his profession. If higher qualifications,



or a longer course of study, were required of him who is about to settle in a retired country town or village, I think that no success that he could there attain would ever sufficiently repay him for all his toil and expense in the acquirement of a due knowledge of his profession. This feeling is my apology for a digression from our immediate subject. The Court of Examiners has deserved well of the public and of their profession. Let them pause before they advance further, and remember that wise Horatian precept—

“ Est modus in rebus, sunt certi denique fines

“ Quos ultra citraque, nequit consistere rectum.”

I shall now proceed to the consideration of the more immediate subjects of the course of lectures I am about to deliver, in conjunction with my friend Dr. Roupell.

The branch of science on which I now enter has received various denominations. In France and Italy, it is called Legal Medicine; in Germany, State Medicine; and in this country it has been designated, indifferently, Medical Jurisprudence and Forensic Medicine. The former term I prefer, as more usually adopted, and as more comprehensive. Under it I comprise, Forensic Medicine, *i. e.* those parts of medical sciences which are required to elucidate questions occurring in courts of law; and Political Medicine, or Medical Police, which points out the most judicious means of preserving the public health. In compliance with the regulations for medical students, issued from the Court of Examiners, we have designated our course on Forensic Medicine.

This, however, will not preclude us from introducing those principles of medical police, which it is very desirable that the medical student should be taught, and of which he will have better opportunities of acquiring a knowledge during his professional education in a great metropolis than in any other situation.

Writers on this science have generally given an histo-



rical sketch of its commencement and progress from the earliest times: but when we reflect on the subjects of which it treats, viz. the administration of justice between man and man, and the preservation of the health of the community, it must be acknowledged, that although it may not have been cultivated as a separate branch of study, still it must have ever been highly interesting and valuable, even in the rudest states of society.

The due administration of justice, and the preservation of the public health, are inestimable blessings, in which all men are equally interested; and they would naturally encourage those means by which they may be attained and preserved. It may be readily conceived, that, in any primitive state of society, points of dispute must have been of the simplest nature, and that common sense, aided by integrity, was alone sufficient to administer justice.

In the progress of civilization, however, new wants and complicated arts and sciences rendered disputed questions more difficult of solution. The evil passions of mankind, also, soon availed themselves of the subtlety of sophistry to obscure the truth.

In such an advanced state of society, an ordinary individual, unassisted, would no longer be able to administer impartial justice. Hence we find, from the earliest records of civilized nations, that men of science were called upon to assist in judicial trials of difficulty. History informs us that, more than two thousand years ago, a king of Syracuse suspected his goldsmith of having alloyed the gold of his royal crown; but he was unable to detect the fraud. He applied to the great Archimedes to assist in bringing the offender to justice; and this profound mathematician, by the application of a simple hydrostatical principle, soon detected the imposition.

In the high state of civilization in which we now live, numerous and complicated are the points of inquiry which come before our judicial tribunals; and these cannot be decided without the assistance of men of science. Ques-



tions the most delicate and difficult, questions which involve the best and dearest interests of society, affecting life, and reputation, and property, are constantly agitated in our courts of law; and which can only be elucidated by the evidence of a well-educated medical man. He may, by his testimony, rescue a fellow creature from incarceration for life; from the ignominy of the gallows; from living branded with infamy; or he may, by his superior and professional knowledge, be the means of bringing to justice and punishment the violator of female chastity, the cunning murderer, who has resorted to unsuspected and insidious means to effect his inhuman purpose; or he may throw some light upon those deeply interesting, but most revolting crimes, when the young mother, in the moments of anguish and despair, may resort to criminal means to annihilate the fruit of her womb, or even to destroy her offspring, which should draw its life from her bosom.

If these are not points of sufficient importance to claim, nay, to rivet, the student's attention, and to command the best energies of his faculties in the prosecution of the study of this science, I am sure that no reasoning or persuasion of mine can ever find its way to his understanding. Such are a few of the highly interesting topics to be treated of under the head of Forensic Medicine.

The rise and increase of diseases among communities, engendered partly by vicious habits, and often by a too densely congregated population, soon forced on wise rulers the necessity of police regulations to prevent the propagation of contagious disorders. The earliest extant code of laws, preserved in the Pentateuch of Moses, gives numerous proofs of how much attention was paid among the Jews to the preservation of public health, by the enjoinder of habits of cleanliness, and by enforcing various quarantine regulations upon strangers, and upon those of their own nation, who had held communication with persons or things which were infected or unclean.

Medical Police, then, treats of the principles, on which



are founded legislative enactments for the preservation of the public health, and for the prevention of contagious disorders. The wisdom of such legislation depends upon the most profound knowledge both of natural and moral causes; and such regulations for the public good should exist in all enlightened governments.

That statesman, who will turn his mind from the more captivating and exciting subjects in the wide field of modern politics to the framing of laws conducive to the health and moral happiness of his fellow countrymen, deserves more lasting honours than the victorious warrior, the skilful financier, or the dexterous diplomatist.

It may perhaps be considered a disadvantage of the popular form of government under which we happily live, that the executive powers do not sufficiently interfere for the preservation of the public health, for the encouragement of men of science, and more particularly for the protection and public remuneration of medical men, to whom the nation at large is so much indebted, and to whose skill, fidelity, and honour, their dearest interests are so often entrusted.

The crowded population of this metropolis—the low standard of morality amongst us, which of course exists chiefly in the lowest grades of society—the multiplied sources of luxury, produced by the wonderful refinements of modern art—the various and complicated chemical processes which are hourly going on in our unrivalled manufactories—the merchandize which daily arrives in our ports from every clime of the inhabited world—all tend to vitiate the atmosphere and to generate disease, and multiply its varieties in this our artificial state of existence. To prevent these fertile sources of misery from pouring forth contagion and death throughout the country, is an object surely of the highest importance. But to legislate wisely upon this subject requires great scientific knowledge, pure philanthropy, and true patriotism. The legislator must not ignorantly or unnecessarily interfere with the manufactu-



rer, or throw needless and vexatious restrictions upon commerce ; or he may unwittingly destroy the very springs of our national greatness.

Our wealth, our very national existence, depends upon our commercial prosperity ; it is that which has brought us, as it did, of old, Tyre, Carthage, Venice, and Holland, to such an eminent station among the nations of the world. Neither must our domestic laws interfere too much with the liberty of the subject, the greatest blessing of the free-born Englishman.

Governments more despotic than our own, with a pretended paternal care, take charge, not only of the health of their subjects, but also of their minds and consciences. Those who have visited the fair land of the revival of arts and learning, unhappy Italy, now groaning under the iron sceptre of Austria, must have observed the admirable system of police that prevails there. Their "Cordon Sanitaire" not only guards them from the baneful influence of infected merchandize from the East, and from the South, but most effectually intercepts the entrance of every thing from the West, or from the North, that may tend to improve their moral and intellectual condition, or that may increase in them the prevailing and increasing love of freedom. The outward forms of morality, and the health of the community, are certainly better protected by their system of police than amongst ourselves. But is this any recompense for the loss of liberty of person and speech, and of every institution which distinguishes a nation of freemen from slaves ?

The necessity of establishing measures of prevention is manifest ; without any, the disease engendered in one might communicate to thousands. Ignorance and carelessness hinder the lower orders of society from taking precautions for themselves : it is therefore the duty of governments to do so for them ; more particularly in ensuring cleanliness in the public streets ; in guarding against the contamination of the sources from which the capital is sup-



plied with water; and in prohibiting the existence of manufactories injurious to the health of a neighbourhood. The near approach of the direful pestilence which ravages the continent of Europe, and which has steadily continued its progress westward, which has even now reached the shores of our sea-girt Isle, even to us the

“*Penitus toto divisos orbe Britannos*”—VIRGIL. GEORG.

more particularly calls for the active interference of the government in enforcing regulations of medical police upon the community, in spite of popular clamour or artful insinuations of the self-interested. The multitude is always blind and prejudiced against the means afforded to them against contagious disorders. Look at their long-continued indifference to the simple process of vaccination, although so great a safeguard against the ravages of the small-pox. How often would the plague desolate the fair climes of the South of Europe, if quarantine laws were not enforced to protect the unthinking from its fatal consequences! Famine and her daughter Pestilence, in former ages, were constantly recurring scourges in this and other countries. Happily, the various new kinds of food, discovered by art or introduced by the improvements in agriculture, now render famine next to impossible in a highly civilized country. The advantages derived from a close attention to these subjects are best witnessed in the greater healthiness of our prisons, our barracks, our ships of war; and not less so in the diminished mortality of our hospitals, of the general population, and of this metropolis in particular.

Any of the foregoing questions may be the subject of parliamentary inquiry; respecting which, you, as scientific men, may be called in evidence. I think they are therefore well worthy of the attention of the medical student; that, when summoned to give his opinion, he may do credit to himself, and render an essential service to his country.

Having pointed out the nature and extent of the science of forensic medicine, and the absolute necessity of its form-



ing a branch of medical education, I shall now unfold the plan we have adopted for this course of lectures.

It is stated, in our prospectus, "that the object of these lectures is, to teach the application of the medical sciences to the elucidation of questions occurring in courts of law, and to inform the medical practitioner how to prepare himself for, and conduct himself under, examination in a public court of justice." It is not our intention to swell out the course to a great length by the narration of numerous trials, which, however much they may gratify idle curiosity, throw but little light upon the questions to which they refer. Nor do we intend to enter upon long disquisitions on the state of the law upon particular questions, with which, in my opinion, the medical man has but little reason to interfere. We shall relate those cases which appear most instructive, either as applications of the principles we wish to enforce, or to point out the mistakes of our professional brethren in giving evidence, hoping thereby to warn others from similar stumbling-blocks. We shall state so much of the existing laws as it is right and necessary that every man should know, that he may be able to facilitate the ends of justice.

Sensible of the immense importance of establishing, by inductive evidence, the doctrines we teach, we shall embrace every opportunity that presents itself of illustrating them by such cases or examples as are accessible to us. In this respect, we fortunately possess some advantages superior to many other lecturers on this interesting branch of medical science; and without which, I am of opinion that little instruction can be conveyed to the pupil, however competent the teacher. I mean that an abundant source of illustration is afforded by the numerous casualties constantly received into this vast and excellent hospital, and to which the student's attention will always be directed, when possible.

Here, observations on the living, and on the dead, will afford tests of the truths we wish to enforce, and convey in the most impressive manner lessons never to be forgotten,



and which cannot be acquired in the course of private practice.

To those gentlemen around me, who will at any time communicate the authentic details of cases coming under their own observation, and which may be useful in the elucidation of any part of these lectures, we shall feel peculiarly grateful. I have also requested several barristers, personal friends, to favour me with notes of causes occurring on different circuits. By such means I hope to collect authentic illustrations of the numerous subjects to be treated of in the course.

The printed syllabus of the lectures will acquaint you with the classification we have adopted. Various systems have been proposed by different writers: some have selected a physiological arrangement; others have classed the topics according as the litigated questions would be tried in a criminal or civil court of law. It has appeared to me that a very natural division might be adopted in the following manner:

1. All those questions relating to the death or injury of individuals, whether arising from violence, accidents, or any other sudden cause.

2. All questions relating to the social condition of individuals, and which may become the subjects of legal inquiry.

Preparatory to the lectures relating to injuries, accidents, and violent kinds of death, I shall give you one general physiological lecture.

To those gentlemen, who have already nearly completed their medical studies, such an exposition of the physiological principles which ought to guide every man, in the examination of such questions, may be perhaps unnecessary. Still I feel that they will be much better able to appreciate my views on these various subjects, by being made acquainted with the principles which would guide me in such investigations.

To others, who are not so far advanced in their studies,



or to any gentleman of the legal profession, who may honor me with their attendance, and who most likely have not devoted much of their attention to physiology, such a preliminary lecture is indispensable.

I cannot hope to make this part of the course intelligible to them, unless they have some clear ideas on the reciprocal influences of the brain, the lungs, and heart, upon each other. I must presume them to be already acquainted with the ordinary functions of these three important organs in the animal œconomy. They ought also to thoroughly understand the general anatomy of these parts.

If they intend to make a practical use of these lectures, to apply their knowledge to the better examination of medical witnesses—to elucidate truth—to expose ignorance—to be enabled to appreciate medical testimony—I beg to impress upon them the necessity of a thorough knowledge of these points in physiology.

In every case of sudden death, whether from accident or from violence, it is the duty of a medical man to make a full and complete examination of the deceased person's body, before he ventures to give evidence as to the cause of death. Most medical students have had opportunities of making examinations of bodies, post mortem; but these are generally made to clear up or confirm their ideas upon the pathological condition of some particular organs of the body. Such a partial examination as this is by no means sufficient, when they contemplate making a report to a coroner's jury, or giving evidence in a court of law.

I shall therefore, at some length, explain the most convenient method of conducting the examination of the dead body, and shall call attention to many phenomena observed in the corpse, which are the consequences of death, but which, when suspicion has been raised upon the cause of death, are too often mistaken for the effects of violence.

That medical men, who have had the advantage of an education in this or any other great medical school in the metropolis, should so often expose their ignorance by their



evidence in courts of law, or before coroner's juries, upon questions referring to sudden or violent death, is to me quite surprising.

It is scarcely a year ago, that a gentleman of great respectability was found dead in his bed, at his own house in the Regent's Park. He had been in perfect health on the previous evening; and there was some suspicion that he had poisoned himself. His body was therefore examined after death; and five medical men made the following conjoint report to the coroner's jury:

“After a minute and careful examination of the cavities of the body, viz. of the chest, the abdomen, and the head, the chief morbid appearances that were observed, were an effusion of blood into the right and left cavities of the chest, amounting to about six ounces on the one side and seven on the other; and a large accumulation of putrid blood in the stomach, mixed with its contents, half-digested food. The blood-vessels of the brain appeared more turgid than usual: these appearances, however, in the head were not sufficient to account for death. Upon mature consideration, the cause of death appears to us to have been the rupture of a blood-vessel on the stomach.”

One of the examining physicians observed to the jury, that the deceased had died of the same disease as His Majesty George the Fourth, only the blood-vessels were much larger in the late king\*.

Such, then, is a specimen of the pathology of five medical practitioners in the largest metropolis of the civilized world! Such was their ignorance and incapacity to give information on an important question, treated of in all works on forensic medicine!

Are we not, then, indebted to those who have now attempted to enforce a more competent knowledge of these subjects upon the rising generation of medical men?

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\* The errors of this report are so obvious, that they require no further exposure.



Pursuing the order of the printed syllabus, I shall next treat of suspended animation—a state of the body of much speculative and practical interest.

This condition of the human frame is induced by immersion in water, by exposure to impure atmospheres, by suffocation, and some other causes.

The question of drowning is interesting to the medical man, both in a physiological and medico-legal point of view. It may be enquired of him in a court of justice, what is the immediate cause of death when a person is drowned? What appearances are observed in the bodies of those who have died by drowning? Are there any signs which will determine, that a dead body found in the water was immersed during life or after death? What are the changes which take place in the human body left to decompose in water, and from those changes can it be ascertained how long a body has lain in the water?

The importance of these questions is striking; and, unless the medical witness has directed his attention to each of these points, there is little chance of his assisting the cause of justice in any case of suspected murder.

It is equally necessary that the medical man should be aware of the external appearances, and of the state of the internal organs of the bodies of those who have died by hanging or strangulation.

Is it not possible that an individual may be murdered by a dose of prussic acid, and that the murderers may suspend the body after death by the neck, to give the appearance of an act of suicide?

Suffocation is not an uncommon kind of sudden and accidental death; and the bodies of persons who have died from such a cause are sometimes found under very suspicious circumstances; and the medical witness is often called to clear up the difficulties of the case.

It is not more than two years ago, that two inhuman wretches were detected in Edinburgh, of having resorted to this method of destroying their fellow creatures, to sup-



ply the anatomical theatres with subjects for dissection. Similar practices have been resorted to in this metropolis. I shall therefore refer to the evidence given on the trials of Burke and Hare, for the information of medical students, and to assist the detection of similar crimes in future.

It is painful to reflect, that medical men are obliged to hold intercourse with such degraded beings as these criminals, to procure themselves the means of learning their profession; and it is most earnestly to be hoped, that the Legislature will, ere long, sanction some other method of providing our dissecting-rooms with subjects.

Questions of equal importance, and perhaps of greater difficulty and delicacy, will follow in the course: I allude to the physical and physiological proofs of rape and infanticide.

Physicians and legislators are much divided in their consideration of the crime of rape. Some deny the possibility of the perpetration of such a crime. The proofs of its commission are few and uncertain; and perhaps there is no accusation in support of which our courts of law have shewn more caution and jealousy in admitting testimony than in such charges.

A very great improvement in the English law on this subject has recently been made, which I shall take an opportunity of explaining.

Of the proofs of the crime of infanticide, one of the most appalling and painfully interesting, I shall treat very fully: but more particularly so because an important means of proving the commission of the crime has been of late years much disregarded.

I advert to the hydrostatical tests of the lungs of the new-born infant.

An eminent and very humane physiologist of the last century, Dr. Wm. Hunter, was the first to throw discredit upon this means of determining whether an infant had respired or not.

Judges and barristers seem all to have imbibed this physiologist's opinions on the subject; but I firmly believe, that,



if Dr. Hunter were now alive, and could be made acquainted with all the investigations on this point which have been instituted in the great medical schools of Vienna and Paris, he would be one of the first to acknowledge the utility of the hydrostatical test in determining whether an infant had been born alive or not.

Other points connected with the proofs of the crime of infanticide, and to which very little attention has been paid by medical jurists, are the changes which take place in the portion of the navel-string left attached to the child shortly after birth, and the different states of decomposition in which an infant's body is found at various periods after death, according as the body has been exposed to the air, buried under ground, immersed in water, or in a common cess-pool.

In a trial for infanticide, it is not only necessary to decide, by examination of the body, whether the infant was born alive, but it is sometimes of equal importance to determine how long the infant lived, how long it has been dead, and the cause of its death.

A French physician, M. Billard, has made some very valuable researches upon this subject, at the great Foundling Hospital at Paris, where 6,000 deserted infants are annually received, and where 1,500 die every year. In conjunction with a friend, I have recently verified most of this physician's experiments, in the same hospital, at Paris.

The consideration of wounds and injuries to the human body, with reference to judicial investigations, will next follow; and in this part of the course I shall detail some very recent experiments made by Professor Christson, of Edinburgh, and some also by myself, at Paris, to point out the signs which distinguish wounds and injuries made upon a body within a few hours after death from those inflicted during life.

Questions of this nature can be elucidated only by appeal to experiments. The vague and contradictory testimony given by medical witnesses upon this subject clearly



indicates, that they speak from conjecture only, and not from ascertained facts.

To such an extent do these discrepancies exist, that a very able writer on this subject has asserted, "that it may be firmly maintained, whether on many occasions the evidence of medical men has not embarrassed where it should have enlightened, and misled where it was called for to direct the steps to justice."\*

This remark is, I believe, quite true; and I shall therefore devote an entire lecture to the subject of medical evidence.

If a medical man have not reflected very often upon the duties of a witness and the best manner of performing them—if he have not read over those trials where a great mass of medical testimony has been brought forward—if he have not consulted some writer on forensic medicine—it is almost impossible that he should do himself justice, or his profession credit, in a court of justice.

The situation of a witness in a public court is so novel and embarrassing to most men, that even those who could perform the most delicate and hazardous operation in surgery, with the greatest coolness, would find themselves thrown off their guard in the witness-box.

This loss of presence of mind may arise from apathy, from a consciousness of not being well prepared for examination, from not having attentively thought over the subject of the examination beforehand, or from having no original notes to refresh a treacherous memory.

A common and almost unavoidable error on the part of the medical witness is, that of exhibiting too strong a party feeling in the cause.

Perhaps he has long been in attendance upon the individual whose state of mind or body is the subject of investigation; he may be the confidential adviser of the family of

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\* Paris and Fonblanque, vol. i, p. 9.



the individual; the inquiry itself may have been instituted by his recommendation; and he may therefore feel that his own character or judgment is compromised, if the verdict be not given in favour of his view of the case.

Another cause of discomfort and discredit to the medical witness is, that he is too prone to theorize, to offer opinions as evidence, instead of facts; and hence is frequently rebuked by the court, or entrapped by a clever counsel into a situation from which he cannot withdraw himself without humiliation.

The counsel, taking advantage of this mistake, will, if it suit his purpose, expose this apparent ignorance without mercy, perhaps charge the medical witness with interested motives, completely undermine and destroy the whole of his testimony, and so vilify his character by insinuations, that the medical man, in disgust and indignation, will become careless, and perhaps crown the whole by contradicting himself.

The chances of discredit from examination in a public court of law are so great, that a very eminent physician in this metropolis, and who has devoted much time to the study of medical jurisprudence, has publicly said, "that, if he saw a man in the streets who, he thought, was going to summon him to attend as a witness, he would take to his heels and run away rather than be dragged into court."

It may be expected that, by enforcing attendance upon one course of lectures on forensic medicine, the student will have his attention directed to this important part of his professional duties, and that henceforth medical evidence will be more consistent and reflect more credit upon the profession.

The following division of the course will embrace the highly interesting department of poisons.

These lectures will be delivered by a gentleman who, I doubt not, is well known to most present—my friend Dr. Roupell. If zeal, and industry, and a conscientious desire to fulfil the duties he has undertaken, be a guarantee that



these duties will be ably performed, I am sure that my colleague will bring all these qualifications into the field.

By this division of labour between Dr. Roupell and myself, we trust that the student will derive much advantage. The topics which this course embraces are so varied, that they may well employ the time and talents of two lecturers.

The concluding part of the course, which I shall have the honour of giving, will comprise the consideration of those questions relating to the social condition of individuals, and which may become the subjects of legal inquiry.

These questions are of a mixed nature.

I shall first explain the anomalies of the organs of generation in the human body, and which sometimes render it difficult to decide to which sex an individual belongs.

Persons have passed through the early part of their lives, wearing the dress and following the occupations belonging to the opposite sex to their own, and their mistake has not been revealed until they have been called upon to serve as soldiers, or they have felt an inclination for the married state.

It is sometimes requisite to pronounce upon the age of a person as well as upon his identity. These questions are of rare occurrence; but it is necessary that the medical man should be prepared to answer them.

The validity of a marriage is sometimes contested on the plea of impotence or sterility of one of the contracting parties; and suits of divorce are sometimes instituted on these grounds. It is therefore an essential part of my duties, as a lecturer on forensic medicine, to point out the means the physiologist possesses of establishing such an imperfect development of the human body as justifies the accusation of impotence or sterility.

Of the next group of questions, I must trust that the medical student has already a competent knowledge by his attendance on lectures on midwifery.

It will be necessary for me to point out the proofs of conception and quickening, because they are frequently



called for when a person is charged with having attempted to produce abortion in a woman quick with child. The proofs of pregnancy must also be communicated, because this state is sometimes concealed and often pretended with the hope of evading the extreme sentence of the law.

Superfœtation, or the possibility of a woman being impregnated when she is already with child, and the limits of the duration of pregnancy, are both enquiries closely connected with the investigation into the legitimacy of children. In a country where so much property is transmitted by hereditary descent, these questions are of great importance and not unfrequent occurrence.

In an earlier part of this lecture, I alluded to the proofs of infanticide drawn from the dead body of a new-born child.

The charge of infanticide could not be brought home against any female, unless it could be proved that she had been delivered about the probable time of birth of the murdered infant. For this and some other reasons I shall describe the proofs of recent parturition which may be obtained from an examination of the person of the suspected woman.

It is one of the duties of the medical man to decide upon the sanity of the human mind. Can any one undertake such a duty without a deep and painful sense of the responsibility which is then imposed on him? If it depend upon him, that, by one stroke of his pen, a fellow man shall no longer be considered a rational creature, does it not require a very extended course of study of the human mind, in its sound and unsound state, before he will dare to affix the stamp of mental degradation upon a fellow creature?

Few medical men are conscious of the legal responsibility they incur in putting their names to a certificate of insanity. Many have never seen such a document until they are called upon to sign it, and are perhaps unaware of its full import.

Much less have they foreseen the risk they run when summoned before a court of enquiry into the state of their



patient's mind. Until a man has once been placed in such a court, and has unfortunately exposed himself by advancing some theory or opinion on the nature of insanity, and felt all the humiliation of being ridiculed by a clever advocate, struggling for victory at any price, he will not fully acknowledge the importance of devoting his mind to this question.

If, however, the information that I can give you upon this subject shall be the means of preserving any one of you from such a painful exhibition, and from its bitter consequences, I shall think the time and study bestowed upon the preparation of this course most amply repaid.

The course will terminate with a few lectures on questions usually ranged under the title of medical police. In a former part of this lecture, I have pointed out the importance of these questions to the well-being of society, and how requisite it is that the medical practitioner should have a competent knowledge of them.

From the brief sketch I have now attempted to draw of the various subjects to be discussed in these lectures, I am sure that the medical student will feel fully convinced, that, for the sake of his own reputation, for the sake of the due administration of justice throughout the empire, he ought not to consider his education complete until he has devoted a certain portion of study to this branch of medical science.

It is almost needless for me to say, that a barrister must be more capable of doing justice to his client, if he have given some previous consideration to this part of medical science; for it is evident that he will thereby be much better able both to examine and comprehend medical witnesses.

It remains for me to point out to the student the treatises on this science most worthy of his notice, and what are the previous studies required for the clear comprehension of all the subjects contained in this course of lectures.

Medical literature on this science does not carry us farther back than the commencement of the sixteenth century,



when Charles the Fifth of Germany promulgated a code of laws having express reference to the subject of medical jurisprudence. His example was soon followed by the Italian, French, and other continental governments.

From that period the science has been much cultivated, and numerous and voluminous works have appeared treating on it. During the sixteenth and seventeenth centuries, the writers of Germany and Italy far excelled those of other countries. Indeed it was not till the close of the last century, that any valuable treatise on this branch of medical literature had appeared in France.

The constellation of learned men which shone forth at the time of the first French revolution have added much valuable information to this as to every other department of medical science.

To our shame it must be recorded, that, previously to the present century, no treatise on forensic medicine by a British author existed; and even at the present day there are but few works bearing the stamp of originality.

The best in the English language is perhaps "The Elements of Medical Jurisprudence," by the American author, Dr. Beck. This is a compilation of great extent, and the last edition is enriched with some very valuable notes by the English editors, Dr. Darwall and Mr. Dunlop. This book is well worthy of the perusal of the student, and in it he will find the opinions of the foreign authors of the last century very accurately transcribed, and more particularly those of the celebrated French author, M. Fodéré.

To those who have ample time, much information may be obtained from the voluminous work of Paris and Fonblanque on medical jurisprudence.

Dr. Gordon Smith's "Principles of Forensic Medicine" is a useful work, but more especially so, because it contains a large number of cases illustrative of the principles of the science. "The Analysis of Medical Evidence," by the same author, is also worthy of a careful perusal.



To those who are familiar with the French language I would point out the best modern work on this science. I refer to the last edition of the "Leçons de Médecine Légale" of M. Orfila, published in 1828. Although this treatise is composed to illustrate the legal provisions of the Code Napoleon, and therefore inapplicable to English law, still the scientific knowledge displayed in its pages is so superior to that contained in any other work, that it will amply repay the English student for the time devoted to its perusal.

Those branches of forensic medicine which fall principally under the observation of the accoucheur are very well discussed in M. Capuron's work on "Médecine Légale relative aux Accouchemens."

The extensive work of the French author, M. Fodéré, on legal medicine is very elaborate, but is now almost behind the actual state of the science; and you will find the most useful parts translated nearly verbatim in the Elements of Dr. Beck.

The student may perhaps think that I have confined myself too much to modern authors, and paid too little respect to the opinions of the older writers. In answer, I shall cite a few lines from Professor Christison's excellent treatise on poisons. He says, "In medical jurisprudence, above all the other medical sciences, it has appeared to me, that the precision and accuracy of facts generally follow the inverse ratio of their antiquity; and, such being the case, so long as there is an abundance of modern instances, I see no reason for quoting the authors of past centuries." I would add, that every branch of science has made such vast progress, that those treatises published prior to A.D. 1800 are of little value.

To those who are anxious for a more extended list of works on this science, I refer them to a catalogue of authors prefixed to *Beck's Elements of Medical Jurisprudence* and *Dr. Young's Medical Literature*.

With reference to the previous studies requisite, I should say, that the complete knowledge of all that makes a good



physician is required to comprehend the different parts of this course. What these qualifications are it is not for me to detail here; but I may add, that it is stated by the late eminent Dr. Young, in his "Introduction to Medical Literature" (which I would strongly recommend to the notice of every medical student), "that there is no study more difficult than that of physic: it exceeds, as a science, the comprehension of the human mind." And perhaps, gentlemen, his mind was one of the most comprehensive that has existed in the present century.

There is certainly no branch of science which may not be cultivated with advantage by the physician: each will afford him more abundant means of investigating and counteracting the causes and effects of disease.

I do not mean that every medical man ought to enter with minuteness into each particular branch of science; but he should have a general knowledge of each, the more intimate the better.

He should, above all, take an enlarged and comprehensive view of this great universe and the laws which govern it. He should, as it were, from an eminence survey the whole, and examine each part in detail, as far as his opportunities permit.

He may suppose the whole of the created matter of our world to form one vast and stupendous cone, on whose apex stands rational and intelligent man, whose base is of almost infinite extent, and of adamantine structure; but of the precise nature of the interior no one knows except that Omniscience who inhabiteth eternity.

Widely different as is the perfect organization of man on the summit from the inorganic mass of the base, still the gradations through the mighty scale are so insensible, the parts are so harmoniously adapted to each other, the transitions are so gradual, that we hardly know where to draw the line which distinguishes the intelligent being from those which simply enjoy the vital principle, or, again, to point out the separation between organized living bodies, whether



animal or vegetable, from inorganized, lifeless, inert, matter.

It is the peculiar privilege of our profession, gentlemen, to be continually contemplating the outward materials of this vast creation, and to be constantly searching into Nature's most hidden operations. Nevertheless, after the lapse of many centuries of laborious study, regions of science still remain unknown and unexplored.

"We may still," to make use of the beautiful language of Sir J. Herschel\*, "imagine ourselves, as the immortal Newton figured himself, standing on the shore of a wide ocean, from whose beach we may have culled some of those innumerable beautiful productions it casts up with such lavish prodigality, but whose acquisition can be regarded as no diminution of the stores that remain.

"Seeing, then, that all the longest life and most vigorous intellect can give man power to discover by his own research, or time to know by availing himself of that of others, serves only to place him on the very frontiers of knowledge, and afford him a distant glimpse of boundless realms beyond, where no human thought has penetrated, but which, he is sure, must be no less familiarly known to that Intelligence which he traces throughout creation than the most obvious truths which he himself daily applies to his most trifling purposes—is it then wonderful, that a being so constituted should first encourage a hope, and by degrees acknowledge an assurance, that his intellectual existence will not terminate with the dissolution of his corporeal frame, but rather that, in a future state of being, disencumbered of a thousand obstructions which his present situation throws in his way, endowed with acuter senses and higher faculties, he shall drink deep, at that Fountain of benefit<sup>ant</sup> wisdom for which the slight taste obtained on earth has given him so keen a relish?"

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\*. Introduction to the Study of Natural Philosophy.







ST. BARTHOLOMEW'S HOSPITAL.

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SYLLABUS OF LECTURES  
ON  
**FORENSIC MEDICINE,**

BY

**GEORGE LEITH ROUPELL, M. D.**

Fellow of the Royal College of Physicians, and Physician to the Foundling  
and Seaman's Hospitals;

AND

**GEORGE BURROWS, M. D.**

Fellow of Caius College, Cambridge, and Candidate of the Royal College of  
Physicians, London.

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THE FIRST PART OF THE COURSE, BY  
**DR. GEORGE BURROWS,**

Will comprise the consideration of all those Questions relating to the Death or Injury of Individuals, whether arising from Violence, Accidents, or any other sudden Cause; and will embrace the following Topics:

Physiological Considerations on Life and Death; Natural Death; Sudden Death; Violent Death; Importance of Dissection, and the Manner of Performing it in such Cases, with reference to making a Report to a Coroner's Jury, or to giving Evidence in a Court of Law; Distinction between the natural Appearances of the dead Body, and the effects of Violence or Disease.

On suspended Animation; Distinctions between real and apparent Death; Conditions of the Body resembling Death.

*On Drowning.*—What are the Appearances which distinguish that a Body was thrown into the Water when alive, or when dead? Cases and Dissections of Persons found drowned. Method of restoring suspended Animation from Drowning.

*On Hanging or Strangling.*—Whether a Person was hung or strangled before or after Death? Whether the act is one of Suicide or Homicide? Cases and Dissections.

*On Suffocation.*—Cases and Dissections.



*On Death.*—From Cold; from Hunger; from Lightning; from spontaneous Combustion. On the Means of restoring Animation suspended by any of these Causes.

*On Infanticide.*—By Omission and Commission; Proofs of this Crime; the Hydrostatic Test; Physiological Proofs.

*On Rape.*—Its Legal Definition and Physical Proofs. On other unnatural Crimes.

*On Wounds or Mutilations of the Human Body.*—On the Duration and Prognosis of different Injuries; the Signs which distinguish Wounds inflicted before, from those inflicted after, Death.

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THE SECOND PART OF THE COURSE, ON POISONS, BY  
DR. ROUPELL.

*Introduction.*—Nature and Extent of the Subject—Proofs of Poisoning—from what sources to be derived—when complete—Definition—Laws respecting—Historical Notice of Poisons—Classification—Division into Irritants and Narcotics.

Mode of Action of Poisons—Circumstances which modify their Action—Age, Habit—Form of Administration—Quantity—Surfaces to which applied.—Idiosyncrasy—Acute, Chronic, slow accumulative Poisons explained.

Symptoms.—How to be distinguished from those produced by various Diseases—Difference between Lesions of Structure occasioned by Poison, and other morbid changes—On spontaneous Erosion of the Stomach—Effects of Poisons on the Body introduced after Death.

Questions, whether absence of Rigidity after Death, Lividity of Skin, or rapid Putrefaction, are signs of Poisoning. Mode of examining the Body—Circumstances to be noticed. On Chemical Analysis.—Length of Time after which Poisonous Matters may be detected—Days, Weeks, Years.

Treatment of Poisoning—Antidotes—Various Modes of emptying the Stomach—Emetics, Stomach Pump, &c. On feigned or pretended Poisoning.



## IRRITANTS.

CLASS I.—Such Substances as induce Changes of Structure in the part to which they may be applied—Death occasioned by constitutional Sympathy with the local Injury.

Some of these act mechanically, as Diamond Dust, chopped Hair, pounded Glass.

Others, by simple contact, inflame or chemically combine with the Animal Tissues.

Boiling Water, Melted Lead, Concentrated Acids, Caustic Alcalies, and other Corrosives. Vegetable Acrids, Chlorine, Nitrous Gas.

CLASS II.—Those Poisons which, besides a powerful local Action, exert a specific constitutional Influence—these are capable of acting by Absorption.

Such as Salts of Arsenic, Mercury, Copper, Lead, Antimony, Zinc.

Animal Poisons.—The Bite of venomous or enraged Animals, Serpents, certain Fish—Muscles—Cantharides.

Oxalic Acid, Iodine.

## NARCOTICS.

CLASS I.—Substances which destroy Life by their Action on the Nervous System, suspending the Functions of the Brain:

Opium, Hyosciamus, Lettuce, Prussic Acid, Carburetted and Sulphuretted Hydrogen, Carbonic Acid Gas.

CLASS II.—Those Poisons which occasion Death by deranging or destroying the power of the Heart, Spine, or Brain; but are also capable of exciting local Inflammation. As instances of which, may be quoted—Hellebore—Aconite—Colchicum—Tobacco—Digitalis—Nux Vomica—Cocculus Indicus—Poisonous Mushrooms—Alcohol—and others.

## ADULTERATIONS OF FOOD.

Deleterious Substances fraudulently mixed with—Bread, Beer, Cheese, Coffee, Tea, Wine, &c. will be mentioned, and the Means of Detection.

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THE CONCLUDING PART OF THE COURSE, BY  
DR. GEORGE BURROWS,

Will comprise the consideration of all those Questions relating to the Social condition of Individuals, and which may become the Subjects of Legal inquiry: these are—

On the Sex of the Individual—Hermaphrodites and other Anomalies—on Age—Identity—Impotence—Sterility—Marriage—and Divorce.

On Conception—Advance of the Embryo—its Age determined—Quickening—concealed or pretended Pregnancy—on Superfoetation—on the Duration of Pregnancy—on Abortion; its physical and physiological Proofs—on Parturition; the Proofs of this occurrence.

On the new-born Child; its Vitality—on monstrous Births—on the Legitimacy of Children.

On feigned Diseases—disqualifying Diseases—on the Presumption of Survivorship.

On Insanity—Proofs of unsound Mind—Nature of the Commission “de lunatico inquirendo”—Certificates of Insanity—on the legislative Enactments for the care of the Insane.

On Medical Evidence.

On Nuisances affecting the Health of Individuals or Communities—on Contagion and Quarantine Regulations—on the Preservation of Health—on the Insurance of Life—Conclusion.

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THE END.







