

# THE DEVELOPMENT OF MEDICAL JURISDICTION

— by M. NARRAINEN. —

Medical Jurisdiction of Forensic Medicine may be defined as the application of medical and para-medical sciences to the purposes of the law, both civil and criminal, and the administration of justice.

The emergence of Medical Jurisprudence, as a separate scientific entity, depends upon the existence of a legal system and a body of Medical knowledge. Its history and development can only be traced from a stage of civilization when records became available. The earliest records take us back only about five thousand years.

## *Medicine and Law in Egypt.*

The early civilizations of the Near East and those of the Nile Valley have left ancient inscriptions and papyri which give us some idea of the state of knowledge. There is no doubt that there was an extensive and fairly well systematized knowledge of medicine, and that the approach to medical matters was scientific to some extent. This is evident from the numerous medical papyri including Kahun (gynaecological) 1900 B.C., Edwin Smith (surgical) 1600 B.C., Ebess (medical) 1550 B.C.

The papyri, the illustrative stone inscriptions, and the mummies, form an excellent picture depicting Egyptian law and medicine from 2500 B.C. onwards. There was in existence a definite system of laws relating to crime, property, marriage and other civil matters. Depending on the severity of the crime, the convicted person received punishment. This varied from a few strokes with a lash, torture, mutilation, or forced labour, to being thrown to the crocodiles of the Nile.

In medicine, both magic and mysticism coexisted with sound medical knowledge. The practice of medicine

was controlled by special regulations. The physician's position in the social system and in the state was clearly defined. Only members of a certain class were entitled to practise medicine, and physicians enjoyed privileges usually accorded to more eminent ranks. Any physician, acting contrary to laws from the sacred books, was condemned to death.

There were specialists in all branches of medicine and surgery: "some are for the head, others for the eyes, others for the teeth, others for the intestines, and others for intestinal disorders". The knowledge of drugs, including metallic and vegetable poisons was considerable. Salaries were paid by the State Treasury.

The development of regulations continued gradually, possibly from the precepts of Imhotep and his followers.

Imhotep (signifying "he who cometh in peace", 3000 B.C.) was Chief Justice, Grand Vizier, astronomer, physician and architect to King Zoser. He combined the sciences of law and medicine and he rightly deserved to be called the first medico-legal expert. Unfortunately, Imhotep whose cult preceded that of Aesclepius, was worshipped as a divine god. Egyptian medicine was weakened by the dead-weight of traditions mingled with magic and divinity. Charms, amulets and incantations were used to drive away evils inhabiting the body. Orthodoxy won the day, and no physician departed from "established" traditions. Apart from the extensive knowledge of drugs and poisons required, and the examination of cadavers to ascertain the cause of death, there is no other evidence of medico-legal practice.

## *Sumerian and Oriental contributions.*

In Babylonia and Assyria: Practice of

medicine was entrusted to a special caste, and was rigidly controlled. Although medicine was dominated by magic and sorcery, it was eventually organized, and reached the stage of Egyptian medicine.

From the code of Hammurabi (2250 B.C.), the physicians were rewarded with adequate fees as prescribed and regulated by law. But if the doctor caused the patient to lose his life or his eye, he had his hands cut off in the case of a gentleman, or he would have to render value for value in the case of a slave.

In Persia: Disease was regarded as possession by the devil, while medicine and surgery were thought to be derived from god. Incest, sexual vice and perversions were punishable offences. The competence of the medical practitioner was ascertained by practising upon heretics: "if all three died in succession, he was regarded as unfit; the loss of another became premeditated murder; if all three recovered, he was admitted to practice."

#### *Jewish medical Laws.*

The principal sources are the Bible and the Tahmud (the law as transmitted by verbal tradition with interpretation and commentaries). The medical practitioner was highly esteemed as reflected by the impressive language of Jesus, son of Sirach (1800 B.C.):

(1) "Honour a physician according to thy need of him, with the honours due unto him: for verily the Lord hath created Him".

(11) "The skill of the physician shall lift up his head: and in the sight of great men he shall be admired".

The Mosaic mandates against bestiality, sexual inversion, and the investigation to be made in the case of disputed virginity, point towards the beginning of medical jurisprudence.

India: The right to practice medicine was restricted to Brahmin priests and scholars, and a prescribed method of medical education was enforced. By

law, girls under the age of twelve could not marry; the duration of pregnancy was taken to be between 9 and 12 lunar months. Special attention was paid to poisons and antidotes, and it was also considered essential to distinguish between various poisons.

So far we have not yet seen the establishment of forensic medicine as a science, but the basis is being laid down in the form of laws regulating medical education, admission to the profession, ethics and toxicology.

China: A remarkable work of the Sung dynasty, (1280 A.D.), is; "HSI YUAN LU" or instructions to coroners. It was compiled between 1241-43, and it includes procedure for investigating deaths in suspicious or alleged criminal cases. This very interesting document contains minute directions for the proper examination of wounds on a body, and also indicated the sites where a wound is likely to be mortal. A systematic examination from the head downwards is stressed, irrespective of the state of decomposition of the body. The examiner is warned against faked wounds. The document deals with wounds caused in various methods, e.g. blows from the fist, kicks or weapon wounds. Death by strangulation, suicide, drowning, and poisoning are equally described. The possibility of confusion between ante-mortem and postmortem bruising, and the passing off of homicidal strangulation for suicide is clearly recognized. Toxicology was also given considerable importance. The examiner is put on his guard for many possible eventualities. He is even advised to examine the locus. We are drawn to the conclusion that medical jurisprudence in Ancient China was fairly well developed and reached an advanced stage, as compared to medieval European practice.

Greece: Before this stage of civilisation, medicine was mainly instinctive, empirical, magical and, in spite of the high degree of practical knowledge and technical perfection, it was applied mainly with the immediate purpose of stopping pains or prolonging

life. Hippocrates (460-370 B.C.) gave Greek medicine its scientific outlook, spirit and ethical ideas.

Hippocrates and others considered many medico-legal problems, e.g. fatality of wounds in different parts of the body, duration of pregnancy, viability of children born before term, superfoetation, malingering. Evidence is lacking to show whether such issues ever came before the courts. The Greek legal system, including its criminal procedure, was very comprehensive and it is likely that the opinions of her famous physicians were sought.

The text of the Hippocratic oath is a shining example of the ethical rights which the concept of professional practice had reached in early times. The oath included an undertaking not to give deadly medicines (poisons) to anyone if asked, nor to suggest such a course; not to assist in procuring abortion; not to seduce females or males in any house the physician enters and not to divulge anything seen or heard. The substance and spirit of the oath still governs the whole ethical outlook of the medical profession.

Rome: Before the establishment of Greek medicine in Rome, laws, relating to malpraxis, poisoning, and fraudulent manipulation of wills, were non-existent. Medicine made great progress during the course of the Empire. Both Greek and Roman physician helped in advancing the objective approach to medicine, among whom were Celsus (4 cardinal signs of inflammation; calor, dolor, rubor, tumor), Galen (who added the fifth sign: *functio laesa*), Dioscorides, Rufus, Soranus, Antgelus.

It is not known to what extent the courts made use of medical evidence, but cases have been recorded to show that medical evidence was submitted. For example the physician, who examined the assassinated body of Julius Ceasar (44 B.C.), was of the opinion that of all the 23 wounds, only one, penetrating the chest was of a fatal nature. In Hadrian's rule the legitimacy of births after abnormally prolonged pregnancies was held, as it was con-

sidered by the physicians, that no fixed maximum period of gestation could be stated with certainty.

Rome's contributions to medicine lay not only in the realms of hygiene and public health, but also in forensic medicine. Justinian legislation may be said to have given shape to medical jurisprudence. The enactments offered between 528 and 564 A.D. and its essential features have been incorporated in many legal systems. The code regulated the practice of medicine, surgery and gynaecology and clearly recognized the medical profession, with the necessary educational requirements, and competent standards. The number of physicians in each town was limited, and the penalties for malpraxis were prescribed. The medical expert was required to assist the court by this expert knowledge and opinion rather than appearing for one side or the other: "*Medici non sunt proprie testes sed majus est iudicium quam testimonium.*"

We see that the status of medical expert is established by law and his opinions were required in civil and criminal proceedings; e.g. in the determination of pregnancy, impotence or legitimacy, in cases of rape and poisoning, in matters relating to wills (testamentary capacity and survivorship).

After the fall of the Roman Empire, medicine became stagnant and the scientific approach gave way to tradition and authority. Legal procedure was very crude. Trial was by ordeal, and confessions were obtained by torture. Expert opinions given were of the nature of hair-splitting casuistry.

There is no evidence of progress in forensic medicine, until the sixteenth century.

## RENAISSANCE

During this period of awakening from intellectual lethargy, the earliest German text of medical jurisprudence of consequence is the "*Constitutio Criminalis Casolina*", issued by Emperor Charles V, in 1553. This text is based on certain laws issued by the Bishop

of Bamberg in 1507, and by the Elector of Brandenburg in 1516.

For the first time in the development of medical jurisprudence, the judge was empowered to summon physicians and midwives as expert witnesses in medico-legal cases, such as homicide, infanticide, criminal abortion, wounding, poisoning, hanging, drowning, malpractice. No post-mortem was authorized.

This progressive tendency spread to other parts of Europe. Medicine was abandoning Galenism, and great improvement in its practice was noted. In 1511, the English act decreed that no one should practice medicine or surgery in London, or 7 miles around, unless examined, approved and admitted. By the 1522 and 1553 acts, the forerunner of the Royal College of Physicians of England was founded, and the "statutes" constituted one of the earliest and most important examples of a local code of ethics.

Towards the end of the second half of the 16th century, Ambroise Paré (1510-1590), the French army surgeon, published his treatise on medical jurisprudence (1575) which included methods to be adopted in the preparation of medico-legal reports. He also wrote on carbon-monoxide poisoning in 1575, and gun-shot wounds in 1545. It must be remembered that Paré performed the first judicial post-mortem in France, in 1562.

#### *Age of intense individualism.*

In the 17th century, the age of Harvey, Newton, Galileo, Copernicus and Gilbert, and Italian physician Fortunato Fidele (1550-1630), who was a better known investigator than his predecessor Battista Codronchi, published a great work entitled "De Relationes Medicorum", (Palermo 1602).

This treatise dealt with the attestation of Virginity and time of delivery, the jurisprudence of poison, lethal wounds, hereditary disease, torture, and monsters.

Another Italian, Paolo Zacchia, (1584-1659), physician to Pope Innocent X, surpassed Fidele by his impres-

sive work: "Quaertians Medico-legals" (Rome 1621-35), consisting of 3 volumes. The first volume dealt with age, legitimacy, pregnancy, superfoetation, death during delivery, resemblance of children to their parents, the jurisprudence of insanity, poisoning, impotence, malingering, virginity, rape, wounds, mutilation, miracles, plague, contagion, and salubrity of the air.

The second volume introduced various problems, which were discussed in the light of medical and legal authority. The third volume contained cases (consilia) with the sephia and decisions of the courts.

In spite of its shortcomings, his work was regarded as a classic text through Europe. However, although Fidele and Zacchia have prepared the way for the further progress of legal medicine, Italy did not keep the lead, and lapsed into a non-progressive state.

In France, the works of Nicolai de Bligny (1684), and Devereux (1694), followed those of Ambroise Paré.

New discoveries were made in anatomy and physiology, and in 1628 Harvey proved the circulation of the blood in the body. A subject on which Harvey remarked, i.e. the difference between the lungs of a foetus and those of a breathing infant, was helped by Swammerdam's discovery of the Hydrostatic test (Tractus de Respiratione, Leiden 1662). In 1682 it was applied in a legal case by J. Schreyer.

#### *Birth of Modern Medical Jurisprudence*

The 18th century, the age of Hunters, Hales, Morgagni and Jenner, was also the age of theorists and system-makers. Germany soon followed Italy's lead with the work of Saevus, J.F. Pfeiffer, G. Welsch and Johann Bohn (1640-1718). Bohn, a professor of anatomy and a physician, was one of the first to start instruction in Leipzig, and he published his first work on lethal wounds in 1689. He gave exact directions for the autopsy procedure and insisted that all cavities of the body be opened in medico-legal necropsies. His comprehensive treatise: "De Offic-

io Medici Duplici Clinici Nimum ae forensis" was published in 1704.

Medical Jurisprudence which had hitherto been a part of state medicine and public health, was carefully systematized in the 18th century, in which field the Germans lead, and were the first to found professorships in forensic medicine. Many important works were published by German writers, and the earliest to rival Zacelaine's "Quartiales Legales", was "Corpus Juris Medico Legale" — 1722, by Machael Fernhard Valentine (1657-1729) of Ghesseu. In 1723 H.F. Teichmayer published "The Institutians", a standard authority for a long time and Michael Alberto wrote a six volume work, system, in 1736-47.

The Germans were publishing cases in increasing numbers. These helped greatly in defining the issues, and suggested the best methods to solve them.

In France, Antoine Louis (1723-92), the first systematic teacher of medical jurisprudence, applied medical knowledge to court-room practice. His memoirs appearing in 1763, dealt with the differential signs of murder and suicide in cases of hanging and drowning. In 1764, in the Villebranche case, he tried to set the time limits of normal gestation which was fixed ultimately at three hundred days under the Code Napoleon as in Roman laws of the twelve Tables. Lafosse described the positive signs of pregnancy and parturition and investigated and distinguished ante-mortem from post-mortem phenomena.

In 1789, Chaussier emphasized the importance of forensic medicine and started a course of lectures to students. Three chairs of legal medicine were established in Paris, Montpellier and Strasbourg.

Francois-Emmanuel Fodis  (1764-1835) published in 1796 his "Traite de M dicine L gale et Hygi ne Publique", and in 1798, he won the title of the Nestor of legal medicine by his work "Les Lois Eclair es par les Sciences Physiques".

#### *Medical Jurisprudence in G. Britain.*

Britain entered the field of medical

jurisprudence during the age of scientific medicine. Both British and continental discoveries have become part of the body of accepted medical knowledge. Anatomy and physiology were fairly well developed and a microscope had been in use for almost a century. Many new scientific and medical societies had come into existence.

The laws of the continent and of Britain were quite comprehensive and embodied in substance the fundamental principles for the function of a medico-legal science. Before the establishment of forensic medicine or its teaching in Britain, medical evidence was given and accepted in the courts. Many famous medico-legal cases have been recorded in the 17th and 18th centuries e.g. in the trial of the alleged murder of Sir Edmund Godfrey, two surgeons gave evidence as to the time of death and the type of injury that caused his death. Another famous trial of the 18th century, was that of Eugene Aram in 1758. He murdered a man, Clark by name, 13 years previously. Certain bones alleged to be those of Clark, were found, and medical testimony had to establish the identification of these bones. The bones were identified as belonging to a male of the same stature and age as Clark, and it was concluded that death was due to a deadly blow on the base of the skull. Aram was convicted of murder and sentenced to death.

William Hunter's essay in 1783 on the signs of murder in bastard children is probably the most important contribution. In 1788, Dr. Samuel Farr (1741-95) published his influential volume entitled "Elements of Medical Jurisprudence".

The following year in Edinburgh, Andrew Duncan (1744-1828) was appointed Professor of Medicine in the University and he began a course of lectures in public hygiene and medical jurisprudence, thus becoming the counterpart of Chaussier in Britain. He stressed the importance and extent of medical jurisprudence as a branch of Education. In 1781, noticing the shortcomings of medical evidence in criminal trials, Andrew Duncan was impress-

ed by the inability of John Hunter to answer a simple important question put to him by a judge in a case of poisoning. Through his repeated efforts, the First British chair of medical jurisprudence was instituted by the Crown in 1807. This creation met with adverse criticisms and even opposition in the House of Commons. His son became the first professor in 1807.

Interest in medical jurisprudence was aroused throughout Britain. In 1866, the first book on forensic medicine by Dr. Male, of Birmingham, was published. Courses of lectures were started in the old Medical Theatre of Windmill Street; in the anatomical theatre at Southwest; and in the University of London, and in the Westminster Hospital. In 1821, Dr. J. Gordon Smith, of the Westminster Hospital, published his work: "Principles of Forensic Medicine", as applied to British Practice.

In 1819, Andrew Duncan, second, was succeeded by Professor William Pulteney Alison. In 1822, Sir Robert Christison (1797-1882) became Professor of Medical jurisprudence. His work on oxalic acid, lead and arsenic poisoning is well known. As famous toxicologist he published his 'Treatise on Poisons', in relation to Medical Jurisprudence, Physiology, and Practice of Physic. He was a medico-legal adviser to the Crown in many famous criminal trials including the Barke and Hare murders. He also wrote excellent articles on asphyxia and bruising.

Professor Christison was appointed Professor of materia medica in 1832 and Thomas Stewart Traill succeeded him.

In Glasgow, a chair was instituted, and Robert Cowan became professor. In 1841, Dr. Harry Raing succeeded him, until 1872. In Aberdeen, Francis Ogston was lecturing on legal medicine in 1839 and became professor in 1857.

In London, in 1821, Dr. Michael Ryan began a course of lectures at the Westminster Hospital, and in 1831, he published his "Manual of Medical Jurisprudence and State Medicine" based on Continental and British authorities.

In 1834, Alfred Swaine Taylor was appointed Professor of medical jurispru-

dence at Guy's Hospital medical school, and he published his edition "Elements of Medical Jurisprudence" in 1836. His work, "Poisons", was published in 1848, and his famous "Principles and Practices of Medical Jurisprudence" in 1865. In 1844, King's College appointed a Professor of forensic medicine.

Sir Bernard Henry Spilbury (born in 1879), lectured in forensic medicine at St. Bartholemew's Hospital.

#### *Further Progress in Medico-Legal Study*

With the wider development of medical jurisprudence, both medical and paramedical sciences are applied to legal requirements. The chemical recognition of poisons in the victim's body, blood stains, investigations by microscopic and serological tests, blood groupings in cases of suspected paternity, the microscopic identification of semen and other fluids and the incriminating bullet in gun shot wounds, are some of the special tests that have revolutionised the standards of medical evidence and opinions.

In France, Fodarè published his greatest work in 6 volumes, covering every aspect of forensic medicine and public health.

Orfila, a Spaniard, graduated in medicine in Paris in 1811, and later became Professor of Legal Medicine in that city.

In 1814, the first edition of his "Treatise on Poisons" was published. Among his many pupils was Robert Christison of Edinburgh. Besides being accomplished in Toxicology, he was an all-rounder, and his "Lecons de Médecine Légale" appeared in 1821, as a very comprehensive work. Other contemporaries of Orfila were; Lecieux, Renard, and Devergie.

In Germany, more professional chairs were created, and their occupants contributed to both the scientific and practical development of the subject. In the Berlin School, Johann Ludling Caspar (1796-1864) achieved a reputation through his works on medical statistics and state medicine, judicial post-mortems, and his "Practical Handwork of Legal Medicine" (1856) which remain-

ed, for a long time, unsurpassed for its wealth of facts and sound judgements.

Forensic medicine was widely established in Britain and Europe by 1950. Medical evidence was becoming very precise and valuable, and its march forward is being continued by eminent medico-legal workers in many parts of the world.

### *Medical Jurisprudence in America*

In the United States, progress has not been uniform. A good start was made in 1813, by the appointment of Dr. J.R. Stringham as Professor of medical jurisprudence. Dr. Stringham being a graduate of Edinburgh, was influenced by the teaching of the Duncans. Other medical schools quickly included a course of lectures in their curricula. Dr. T. Romeyn Beck (1796-1855) was appointed lecturer in 1815 at the western Medical College, New York State. In 1823, he published his "Elements of Medical Jurisprudence", the best American work in its day running through ten editions and many translations.

Isaac Ray (1807-1881), of Beverley, Massachusetts, wrote his first treatise on medical jurisprudence of insanity, (1838).

Unfortunately, the high hopes entertained about American jurisprudence had not been fulfilled, as seen by the criticisms of Professor Stanford Eullson Chaille in 1876. Considerable improvements have resulted within the present century.

Many states have competent medical examiners, to whom medico-legal cases are referred, and medical jurisprudence is now receiving greater attention in many medical schools.

Well known names like Martland, Helpem Leary, and others, are included among modern American authorities.

In Latin America, forensic medicine as a university subject is further advanced than in the United States.

The European systems of establishing claims, is generally accepted at the University.

### *Scope of Medical Jurisprudence*

Forensic medicine through its historical travel from magic to modern science, has established itself as a separate entity after divorcing Public Health, and obtaining relief from psychiatry.

It has attained a high degree of specialisation within itself, and most countries have found it necessary to establish institutes of legal medicine to co-ordinate the work of the specialists. The forensic expert is continually being faced with problems arising from the needs and complexities of modern industrial societies, and quite often he has to enlist the cooperation of experts in various scientific fields.

Apart from the scientific detection of crimes, the prevention of criminal negligence, and loss of life, the doctor should be quite conversant with the medico-legal aspects of the practice of medicine as the public, in becoming increasingly aware of its legal rights.

In recent years, most medical schools have felt the urgent need of including forensic medicine in the medical curriculum. This wise step has greatly helped to enhance the further development of medical jurisprudence.

Acknowledgement has been made throughout this article to a number of works, but I am very much indebted to the following Histories of Medicine:—

"A short history of Medicine", by C. Singer.

"A History of Medicine", by D. Guthri

"A History Medicine", by A. Certighioni.

'Medical History from Earliest Times' by E.T. Worthington.

"An Introduction to the History of Medicine", by F.H. Garrison.

'The Source Book of Medical History' by S. Cleudenming.

'Etude Historique sur la Responsabilite Medicale' by H.E. Hillairet.

"History of American Medicine", by F. Marti-Ibanez.