

## PASSAGES OF MEDICAL HISTORY. ✓

EDINBURGH MEDICINE, 1750-1800.\*

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In my ten-minute talk last May about the Edinburgh medical school I dealt with the founding of the Royal College of Physicians, the botanic garden, and the expansion of the Town's College into the University of Edinburgh through the establishment of a medical faculty in 1726.

In the second half of the eighteenth century the medical school at Edinburgh became much more than a local institution, and not only attracted students from all over the British Isles, but was the chief centre to which men desiring to study medicine had recourse from the newly-founded British colonies throughout the world. Several of the teachers were men who attained great reputations.

Dr Robert Whytt succeeded John Rutherford as professor both of the theory and practice of medicine in 1747, and was appointed largely because he was interested in medical research, a rare pursuit in those days. Stone in the bladder was a serious and frequent complaint which attracted great public interest and produced many reputed solvents for these calculi. Whytt had carried out an elaborate series of experiments in the Royal Infirmary of Edinburgh with lime water, which he found to have a considerable power in disintegrating calculi, and he had published *An Essay on the Virtues of Lime Water and Soap in the Cure of the Stone*. The treatment upon which he finally settled was to administer daily by the mouth an ounce of soap and three pints or more of lime water. He also published *An Essay on the Vital and Other Involuntary Motions of Animals* which brought him into conflict with the great Albrecht von Haller and gained him prominent notice on the Continent. In other physiological essays he investigated problems such as reflex action, and what is now

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known as referred pain from the internal organs. Whytt's chief claim to lasting remembrance, however, lies in the fact that he was the first to give a clear description of tuberculous meningitis in his *Observations on the Dropsy in the Brain*. When he died in 1766 he was succeeded in the chair of medicine by Dr John Gregory from Aberdeen, and in that of institutes of medicine (physiology) by Dr William Cullen from Glasgow.

John Gregory was a man of mild and philosophic temperament who died after he had held the chair of medicine for seven years, and was succeeded by his colleague William Cullen, whose transfer made an opening for John Gregory's son James.

William Cullen (1710-1790) came originally from Hamilton, and after some years there in general practice, went at the age of twenty-four to study medicine in Edinburgh, where he was one of the original members of the Royal Medical Society. After graduating M.D. at Glasgow at the age of thirty, he settled in that city, where he later became lecturer in chemistry and professor of medicine. In 1755 he came to Edinburgh as joint professor of chemistry with Andrew Plummer, where after Plummer's death he was so successful that the class of chemistry rose from 17 students to 145. Next he became professor of the institutes of medicine, and finally professor of medicine at Edinburgh at the mature age of sixty-three. Despite this late appointment, I think it may safely be said that Cullen is the most celebrated professor who has ever held the chair of medicine at Edinburgh. His fame, like that of Boerhaave at Leyden, rests almost entirely upon his skill as a teacher and his sagacity as a consultant. Various of his lectures were published in book form, but, unlike his predecessor Whytt, he did no research. A little book, Cullen's *Nosology*, in which he gave a classification of the confused subject of diseases arranged like plants by classes, orders, genera and species, also attained great fame for half a century after his death.

Joseph Black (1728-1799) was a pupil of Cullen in Glasgow and followed him in the chairs of chemistry at Glasgow and at Edinburgh. He is chiefly famous for his discovery of carbon dioxide, the first gas to be carefully investigated. This research, which is regarded now as having been the

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foundation of scientific chemistry, was submitted by Black for his M.D. thesis at Edinburgh in 1754 with some misgivings as to whether it would be accepted.

Another assistant of Cullen who became notorious in a different way was John Brown (1736-1788). Brown objected to Cullen's classification of diseases, which he reduced to the simple conception that all diseases were due either to too great relaxation or constriction of the tissues, a system known as the Brunonian theory. Therefore only two remedies were necessary, a stimulant and a sedative. For this purpose, brandy on the one hand and morphia on the other were considered by him to be an adequate pharmaceutical armamentarium. He obtained a great following for a time both in this country and on the Continent, and migrated to London to practise. Here, however, a too rapid alternation between his own remedies in course of time lost his practice and reduced him to penury.

Alexander Monro *primus*, who had held the chair of anatomy since 1728, retired in 1758 in favour of his son, Alexander Monro *secundus* (1733-1817). The latter proved a great teacher and a great investigator, although it is a striking fact that none of the works on which his reputation rests was published till after he was fifty years of age. Both Cullen and Monro are great examples in refutation of those who hold the theory "too old at forty." His chief works were *Observations on the Structure and Functions of the Nervous System* (1783), *The Structure and Physiology of Fishes* (1785), *The Bursæ Mucosæ of the Human Body* (1788), and *A Treatise on the Brain, the Eye and the Ear* (1797). In the last-named work occurred his description of the foramen joining the lateral ventricles which still bears his name.

Two great teachers of anatomy arose in the extra-mural school towards the close of the century in the persons of the brothers John and Charles Bell. They virtually founded the subject of surgical anatomy as distinguished from the descriptive aspect of this subject.

An important development of the increasing medical school was the separation of materia medica from botany in 1768, when Francis Home (1719-1813) was appointed to fill this newly instituted chair. He had served with distinction

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in the British army during the War of the Austrian Succession, and in Flanders he had been the first to suggest, for the prevention of fever among the troops, that all drinking water should be boiled. His description of contagious angina in children, published in 1758, is regarded as the first description of diphtheria.

Midwifery, in which Edinburgh had been the first place ever to appoint a professor of this subject, expanded with the growth of the school. Dr Thomas Young, the second professor of the subject, in 1756 applied to the Managers of the Royal Infirmary for permission to fit up a ward for lying-in women, and this was done in the attic storey of the hospital for "four women or as many more as Dr Young could accommodate, each woman exceeding the number four paying sixpence per day to the Infirmary." Two hundred years later the Maternity Hospital is returning to the Royal Infirmary, and there is a prospect that the principle of paying beds may be revived.

Young was succeeded in 1783 by Dr Alexander Hamilton, who in turn was succeeded by his son James Hamilton in 1800. Through the exertions of the former, an independent lying-in hospital was established in 1791 for the double purpose of a useful charity and of affording practical instruction to students. Alexander Hamilton brought out two successful text-books on his subject.

Edinburgh was more celebrated in this period as a school of medicine than as one of surgery, but there were several well-known surgical practitioners. Alexander Wood (1725-1807), known affectionately as "Lang Sandy Wood," was recognised as a skilful surgeon; but also, at a time when personal peculiarity was widely affected by Edinburgh people, he distinguished himself by going to see his patients accompanied by a pet sheep and a raven.

James Rae (1716-1791) was one of the first in Edinburgh to urge that surgery deserved to be taught in a complete course of lectures apart from anatomy, for it was treated only in a few lectures of the anatomical course by the Monros, and a chair of surgery was not established until 1831. In 1769 Rae began a course of lectures on clinical surgery in the Royal Infirmary, the first attempt to teach surgery in this way.

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Along with his son, John Rae, he also devoted special attention to dentistry, and may be regarded as the first dental surgeon in Edinburgh.

Benjamin Bell (1749-1806) may be regarded as the first of the Edinburgh scientific surgeons. He published an important treatise *On Gonorrhœa Virulenta and Lues Venerea* in 1793 which for the first time distinguished clearly between these two diseases. He also published *A System of Surgery* which went through seven editions and was translated into French and German.