

## THE GLASGOW SCHOOL OF MEDICINE.

By JOHN PATRICK.

THE Glasgow School of Medicine may be said to have arisen at a very definite date, 1599, and to have been founded by one definite personality—Peter Lowe. At the close of the sixteenth century Glasgow was a town of about 7000 people, holding only about the eleventh place of importance amongst Scottish towns. It was probably an insanitary town, not worse than others at the time: its houses built of wood and roofed with thatch; its drainage system consisting of primitive gutters or syvers in the streets; frequently visited by plague and possessing a persistent outcrop of leprosy. Medical practice was in the hands, in the first instance, of a few physicians trained in the schools of Italy, France, and the Low Countries; then there was a fairly large body of barber-surgeons, the general practitioners of the period, not banded together in a Corporation, as in Edinburgh and London; then there were also a few barbers who practised surgery only, and, in addition to these, a horde of charlatans, pretenders, sellers of simples, and mediciners of all sorts.

In 1598 the kirk session urged the Town Council to institute some means whereby the skilled and

unskilled practitioners of medicine could be distinguished. In April of the following year the Council appointed a committee (how curiously was that method of getting out of a public difficulty in vogue even then!), three bailies, three city ministers, and three University officers, "with other men skilled in the art to examine for the future those who practised in the town." It is probable that the influence of Peter Lowe was at the back of all this. He certainly found means of making some kind of representation to King James VI. The king—it was he who a few years later became James I. of England—granted in November, 1599, letters under the Privy Seal empowering Peter Lowe and Robert Hamilton "to examine and try all who professed or practised the art of surgery to license 'according to the airt of knowledge that they sal be found wordie to exercise' those whom they judged fit and to exclude the unqualified from practice with power to fine those who proved contumacious." Thus was created the Faculty of Physicians and Surgeons of Glasgow. It is a curious fact that in Glasgow the two great branches of the profession were in those early days, and still are, associated together in one corporation, differing from the practice in Edinburgh, London, and Dublin, where physicians and surgeons are organised in different colleges.

Maister Peter Lowe was a Scot whose early manhood was spent abroad. He saw service in France and Flanders, and was surgeon-major to the Spanish regiments at Paris for two years. He came back to Glasgow probably in 1598, and was town's doctor, for there is a record in the minutes of the Town



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Council of 17th March, 1599, that certain sums of money were to be paid to him for attending the poor of the town. He had been so long away from the country that when he returned he was possibly unaware of the changes in the Church government which had taken place and the introduction of the austerities of Calvinism. At all events, he was for some offence sentenced by the Presbytery of Glasgow to stand "on the pillar." The offence must have seemed trivial, for the doctor paid no attention to the command of the clerics, apparently treating the whole matter as a jest. The Presbytery, however, was in no joking mood, for he was condemned to stand two Sundays on the pillar and pay his fine as well to the "thesaurer" of the kirk. Peter Lowe was probably the first to write a textbook on *Chirurgie*, which was published in London in 1597. During the seventeenth century the Faculty of Physicians and Surgeons gradually developed some kind of organisation and made its influence felt in the city. It retained the whole control of licensing of practitioners and surgical apprentices, such as it was, and, indeed, more than two centuries afterwards, when medicine and surgery had long been recognised as subjects of study and examination in the University, the Faculty obtained a decision from the Court of Session that without examination and licence by them the holder of a University degree was not entitled to practise surgery within the fairly wide territory of the Faculty.

In this century the University had for itself begun to recognise the importance of the study of medicine. In 1637 Robert Mayne was elected

#### ERRATA.

P. 239, l. 17, for "*Chirurgie*" read "*Chyrurgerie*."

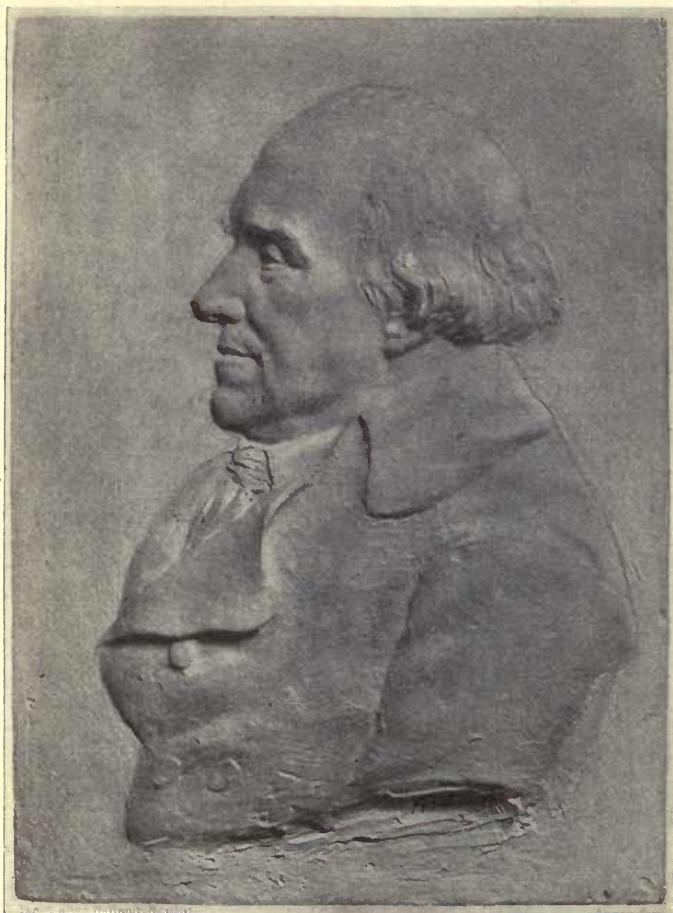
P. 246, l. 19, for "inglorous" read "inglorious."

P. 247, l. 2, for "and" read "had."

Professor of Medicine. His duty was to "teache ane publickt lecture of medicine in the said Colledge once or twyse ewerie weik, except in the ordiner time of vacance." But in 1642 a Commission of Visitation of the General Assembly found that the profession of medicine was not necessary for the college in all time coming, but allowed Mayne to continue to be Professor during his life. Mayne should always be remembered as the author of the rhyme of the arms of Glasgow. He died in 1646, a year in which there was a virulent outbreak of plague, so severe that the University migrated in a body to Irvine, on the Ayrshire coast. In that year the plague-stricken people were deported to the Muir lands of Sighthill, in the northern part of the city, where they were visited by John Hall, the principal surgeon of the day, a man plainly built in heroic mould, carrying out his medical duties with the courage of all medical heroes.

It is not till the first half of the eighteenth century that we come again upon the names of men who built up the Glasgow School. In 1714 Dr. Johnstoun was appointed by the Faculty of the University to the revived Chair of Medicine. With the beginning of the century the University began to give degrees in medicine, though not to teach the subject. In 1720 a Chair of Anatomy and Botany, two subjects curiously linked, was founded, and Thomas Brisbane was appointed. Brisbane, however, disliked anatomy, and would not dissect; he appears to have had no great objection to teaching botany. In 1727 he was ordered to teach anatomy if even ten students entered—the whole story has a





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peradventure ring about it—but there is no record that he did so. He gladly handed over these duties to Mr. John Paisley, who taught anatomy for ten years in the Humanity classroom. One of Mr. Paisley's apprentices, William Cullen, was destined to make for himself an everlasting name as the founder of modern medicine, and was to a notable degree the fount and stimulus of the Hunterian inspiration.

William Cullen was born in Hamilton, a county town ten miles south of Glasgow; he was the son of a lawyer, factor to the Duke of Hamilton of that day. After finishing his studies in Glasgow, he spent a *Wanderjahr* in a voyage to the West Indies, and on his return pursued his studies in London, and later in the quickly growing medical school of Edinburgh. He began practice in Shotts, and then removed to his native town, and until recently the house in which he practised was standing at the corner of Castle Street and the New Wynd. His reputation spread, and in 1744 he came to Glasgow, notwithstanding the efforts and promise of a laboratory by the Duke of Hamilton. Almost immediately he began to lecture, and these lectures were apparently the first systematic attempt to teach medicine in the city. He broke new ground by discarding Latin and lecturing in English. He lectured on botany, physic, materia medica, and, lastly, on chemistry. In 1751 he was appointed Professor of Medicine, an appointment held but a short time, for four years later he was transferred to the Chair of Chemistry in Edinburgh University. In Edinburgh also he taught medicine, and introduced the

epoch-making change of bedside teaching. His most important work was done in Edinburgh, but he had done great and notable work for the Glasgow School: he had set going classes of instruction in medicine, materia medica, botany, and chemistry; he had attracted large numbers of students; he had extended the reputation of the University amongst professional and scientific men, not only in the United Kingdom, but also on the Continent of Europe. "He was one of the rarest species of the man of science—a masterless master." His influence on William Hunter was profound. They came together when Cullen was twenty-seven years of age and Hunter nineteen. Cullen gathered the latest publications on medicine and chemistry, made frequent experiments himself, and (most extraordinary of all) kept accurate notes of every case in his practice, a plan adopted, too, by his senior, Smellie, in Lanark.

William Hunter studied both in Glasgow and Edinburgh, and in 1750 Glasgow conferred upon him the degree of M.D. His influence is perpetuated for all time in the Hunterian Museum, a storehouse of marvellous wealth in books, pictures, coins, as well as anatomical and pathological specimens. Sir William Gairdner always began his course of lectures by long quotations and references to Cullen's *Nosology*, for Gairdner regarded Cullen as the opener up of a new era in medicine, as the first to cast aside the old traditions and canons and to teach that the physician was the servant of nature, and that disease must be learned only from direct study of the patient.



Associated with that period, and to some extent with Cullen himself, was a group of men who left a lasting and deep impression on the world of medicine. All were not specially connected with the Glasgow School, but their influence on it must have been felt. It is remarkable that these small villages of the Clyde valley—Hamilton, East Kilbride, Lanark, Bothwell—should at the same period have produced a group of minds of the highest scientific quality. We have pointed out that Cullen was born in Hamilton. William and John Hunter were born at Long Calderwood, in the parish of East Kilbride. Mathew Baillie, nephew of the Hunters, was born in Bothwell. William Smellie, the famous London obstetrician, was a Lanark man, and practised there before the desire for wider scope and opportunity drove him south. Hunter was an intimate friend of Cullen, worked as his pupil or apprentice for two years, and it was his intention to practise with him in Hamilton as his surgical partner. But an appointment with Douglas the anatomist proved so enticing that William Hunter remained in London. Another friend of Cullen, older than he, was Dr. John Gordon, a practitioner in Glasgow, President of the Faculty in 1755. He was friend and correspondent of Smellie. His pupil, Tobias Smollett, introduced him as "Potion" in "Roderick Random." Smollett's place with Gordon was taken by John Moore, father of the hero of Corunna. He too, with Smollett, was found in London amongst the Hunterians.

When Cullen and William Hunter dreamed of making Glasgow a great Medical School—Leyden

and Edinburgh were the patterns—building the science of medicine on a foundation of chemistry, John Hunter, the greatest of them all—“the Shakespeare of Medicine”—was a rough, harum-scarum, auburn-haired lad, working on the farm at Long Calderwood, ignorant of books, but quick and apt to see and know the things of nature around him.

Another friend and pupil of Cullen was Joseph Black, of “latent heat” fame: Black was the discoverer of latent heat, but the first suggestions regarding it came from the fertile brain of Cullen. Black succeeded to the Chair of Chemistry in Glasgow when Cullen went to Edinburgh. One of his pupils in turn was James Watt, and so the torch was handed on. Dr. Freeland Fergus has fondly pointed out a most interesting succession: Cullen taught Joseph Black; Black taught Thomas Thomson; Thomas Thomson, when Professor of Chemistry, taught Graham, afterwards Master of the Mint, and for some time Professor of Chemistry in Anderson’s College; Graham, in University College, London, had as a pupil Joseph Lister. Thus the founder of modern medicine is linked *longo intervallo* with the founder of modern surgery. These men all belonged to the Glasgow School, and their names are inscribed on the roll of Fellows of the Royal Faculty of Physicians and Surgeons.

When Cullen left Glasgow, Joseph Black became the dominant figure in the University world. A student of Glasgow University both in arts and medicine, he attracted the notice of Cullen, and became his pupil and assistant. His medical course

was finished in Edinburgh. In 1756 he succeeded Hamilton as Professor of Anatomy and Botany, and a year later was appointed Professor of Medicine in addition. He succeeded Cullen as Lecturer in Chemistry, and that branch of science permeated all his other teaching. His great achievement in Glasgow was the discovery of latent heat. His experiments were closely watched by other professors and by another man of genius, James Watt, whose workshop was housed in the University grounds. It is in a way a matter of regret that Glasgow lost the great services of Cullen and Black on their successive removals to Edinburgh. When that change came, when Black removed to Edinburgh to succeed Cullen in the Chair of Chemistry, the lectureship in chemistry in Glasgow was held by John Robison, about whose name flits a story of another kind. In his youth he had been a midddy in the Navy, and was in the boat in which Wolfe went to inspect some posts before the storming of Quebec. He brought back the story of the great "General repeating aloud nearly the whole of Gray's 'Elegy,' then recently published, and declaring that he would rather be the author of that poem than conquer the French on the morrow." His career did not end as a University lecturer in Glasgow, as he became secretary to Knowles, who was then at the head of the Russian Admiralty, and finished as Professor of Natural Philosophy in Edinburgh University.

Thomas Thomson was a graduate of Edinburgh, M.D., in 1799. Before then he had achieved distinction, as he became editor of the "Encyclopædia

Britannica" in 1796, when only twenty-six years of age, in succession to his brother. He was the introducer of the oxy-hydrogen blowpipe and of the system of chemical symbols and chemical equations. He was appointed to the Chair of Chemistry in 1818, and was physician to the Royal Infirmary for two years. He was a man of quaint enterprise, and stories are told of him by Dr. Freeland Fergus. He walked all the way from Edinburgh to Glasgow in 1808 to see the Tontine illuminated by coal gas. Once when on a paddle steamer on the Clyde, in the earliest days of steam, he had got hold of a bucket and a rope and went out on the wing of the paddle to draw a sample of the churned-up water after it had passed the paddle. Whatever his idea in making the experiment, he seems to have forgotten one factor, for the pull on the bucket made him lose his balance, and he was with some difficulty saved from a watery and inglorious end. He was popular, as he became the first chairman of the newly organised Medico-Chirurgical Society in 1844.

Thomas Graham brings the story of the Glasgow School down to the middle of the nineteenth century. Though not a doctor, he required to become a Fellow of the Faculty to lecture on chemistry to students of medicine. He was the outstanding physicist and chemist of his time. He did not belong to the University, but was Professor of Chemistry in Anderson's College. His work on "Diffusion of Liquids" appeared in 1846. In 1837 he was appointed to University College, London, and in 1854 he became Master of the Mint.





Professor John Anderson, M.A., F.R.S.,

1726-1796

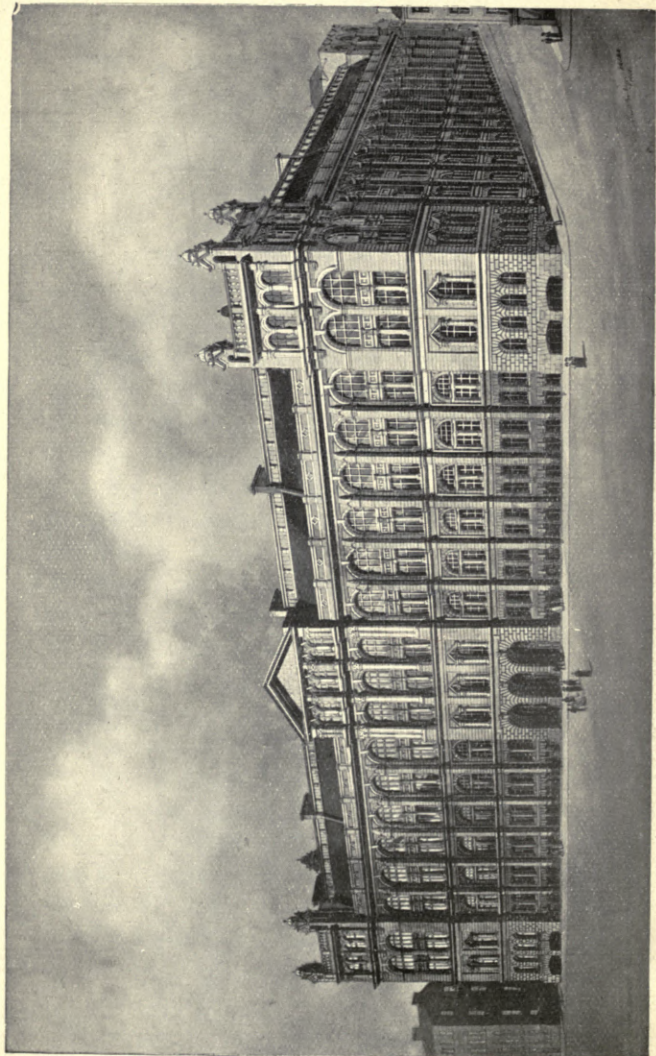
The Founder of the Royal Technical College



At the end of the eighteenth century the University Medical School and a staff of six teachers, a Professor of Medicine, a Professor of Anatomy, and lecturers on chemistry, materia medica, midwifery, and botany. The medical students were nearly 200 in number. The Royal Infirmary had been opened in 1794 and provided an ample field for clinical work. The Napoleonic wars awakened the authorities to the needs of surgery, and in 1815 the Chair of Surgery was founded. The Chairs of Physiology or Institutes of Medicine and of Forensic Medicine were founded in 1839. The close proximity of the University to the Royal Infirmary made it easy to carry out the clinical teaching, and up till the removal of the University to the West End of the city, the wards of the Royal Infirmary were crowded with students. To-day University students overflow from the Western Infirmary back again to the Royal Infirmary and to the Victoria Infirmary, in all of which the accommodation is taxed to the utmost, and the distribution is accomplished only by a precise limitation of the numbers admitted to the clinical classes. The story of the University has already been told in a previous article.

The Faculty of Physicians and Surgeons, as we have indicated, was the licensing body of Glasgow, controlling the apprentices and the general practitioners. It was not a teaching body. In the eighteenth century any extra-academic teaching was occasional only. In 1764 Dr. Andrew Morris, a graduate of the University of Rheims, practised in Glasgow, and lectured on medicine in the Faculty Hall; and Mr. James Monteath lectured on mid-

wifery from 1778 for a few years. With the establishment of Anderson's University, or, as it is now called, the Anderson College of Medicine, in 1795, extramural teaching became continuous. The founder of the College was John Anderson, M.A., F.R.S. This most ingenious and public-spirited man became at the age of twenty-nine Professor of Oriental Languages, and shortly afterwards Professor of Natural Philosophy, in the University. He was the originator of the Mechanics' Institutes, and for forty years gave series of public lectures on experimental physics to the mechanics and operatives in the factories of Glasgow. He was the inventor of a gun carriage and the introducer of the balloon posts adopted by the French in 1791 in their effort to spread Republican propaganda. It was to him that James Watt owed a great debt, as he befriended Watt and encouraged him in his researches and helped the establishment of his workshop in the University grounds. At Anderson's death the whole of his property was left "to the public for the good of mankind and the improvement of science in an institution to be denominated Anderson's University." The scheme for the University was complete, but it became grandiloquent when it was found that the bequest was only £1000. However, after vicissitudes and hamperings for want of money, the school began to prosper, and by 1833 had a full curriculum, with more teachers than the University of Glasgow. In 1861 John Freeland assigned funds to secure the delivery of courses of public lectures especially in Natural Philosophy. In 1866 William Ewing endowed



The Royal Technical College, Glasgow



popular lectures in the History and Theory of Music and at his death his Musical Library was bequeathed to the College. Anderson's University was housed in a building in George Street, not far from the University of Glasgow. The popularity of the teachers and the variety of subjects induced many University students to take classes there. The classes have for many years been recognised as qualifying for University degree examinations and for the diplomas of the Colleges and Faculty. In 1886 the Medical School was separated from the other departments of work of the Anderson University, and the Technical College, now a magnificent building in George Street, City, the finest of its kind in the world, was established, the Medical School being removed to its present site close to the Western Infirmary.

The removal of the University to the west and the opening of the Western Infirmary was a disastrous blow to the Royal Infirmary. Steps were accordingly taken in 1875 to rehabilitate the Royal Infirmary as a clinical school. The leading spirits in this praiseworthy effort were Dr. John Gibson Fleming, a former president of the Faculty of Physicians and Surgeons, and Mr. William MacEwan, both managers of the infirmary. They were successful in obtaining a charter which included: "Powers to offer facilities and accommodation for the teaching of medicine and surgery and the collateral sciences usually comprehended in a medical education." At first the school was housed in temporary classrooms, and in 1883 the present commodious buildings were erected, adjoining the Royal

Infirmary on its northern side. At a later period, 1889, the Royal Infirmiry School of Medicine was converted into St. Mungo's College, the teaching being conducted in the same buildings. In 1912 the connection of the Royal Infirmiry with the University was re-established, when four new professorships—Medicine, Surgery, Obstetrics and Gynæcology and Pathology—were founded. The association of the Royal Infirmiry with the University is still more closely cemented by the appointment of surgeons and physicians of the infirmiry to be University lecturers and examiners. There were other extramural schools in Glasgow in former days, namely, the Portland Street Medical School and the Western Medical School—but these were on the whole short-lived, though serving a useful purpose in their day. The extramural schools of Glasgow have not only possessed teachers of their own of great eminence, they have also provided an excellent training ground for men who rose to higher spheres in the University. Many University professors first made their name as teachers in these extra-academic schools, and when the time came they carried with them scientific and teaching reputations, the lustre of which was not as a rule dimmed by the more serene and stable atmosphere of the University.

We may now return to consider the Modern Glasgow School. The name that stands out most prominently in the middle of the nineteenth century is that of Lister.

Joseph Lister was Professor of Surgery from 1862 to 1869, when he too, like so many of his academic



forebears, yielded to the claims of Edinburgh—strong claims to him, both scientific and social. When he came to Glasgow to fulfil the duties of the Chair of Surgery he was in the anomalous position of having no wards in the Royal Infirmary, a condition of affairs which was not rectified for nearly two years. The story of his surgical achievement needs no repetition—it is sufficiently familiar. The ward in which his great work was accomplished is still extant, and quite a number of his pupils will be found in Glasgow to-day. There can be no doubt that Lister's investigations and discoveries during his term of office in Glasgow completed the discovery of antiseptic surgery. His work later was simply that of amplification and extension: it was in Glasgow, then, that modern surgery was born. In Glasgow the reception of the new ideas in surgery was more cordial, and the adoption of the system more ready, than probably in Edinburgh, and certainly in London. With one exception, possibly, Lister's colleagues very soon came to see the true nature of the revolution, as they had been constantly in touch with what Lister was doing, and heard his first expositions of the new theory. Besides, a genius like Lister attracted the younger men, and their actively receptive minds saw what a great thing it was, and spread abroad the new truth.

Sir George <sup>H. B.</sup> MacLeod, Lister's successor in the chair, belonged to a great Scottish family renowned in the Church and in social circles. His commanding presence (his nickname was "The Duke") and firm, impressive, incisive style of teaching are still remembered by many generations of students.

In anatomy Allen Thomson and John Cleland<sup>a</sup> were towers of strength in Glasgow. The Glasgow School had not been regarded even by its *alumni* as essentially an anatomical school. But it had a great reverence for its teachers of anatomy. Allen Thomson was a member of a family which achieved great distinction: his grandfather was a Paisley weaver, his father became a professor in Edinburgh, his brother a professor in Glasgow, and his son a professor of chemistry in King's College, London. In anatomy he was well known as one of the editors of "Quain," and was an early worker in embryology. He will always be remembered as having taken a most active part in the founding of the Western Infirmary.

That massive man, John Cleland, who succeeded him, made deep impressions on all his students, though it is just possible that they failed to appreciate his great capacity as an anatomist. In the subject of obstetrics and gynæcology the Glasgow School claims with pride that the first successful ovariectomy was performed by Mr. Robert Houston, Fellow of the Faculty, whose operation was performed in 1701. A complete account of the operation has been preserved in volume xxxiii. of the "Philosophical Transactions," London 1733. And again, to Murdoch Cameron belongs the great credit of having made Cæsarean section a successful, and now extensively performed, operation.

Another of the great men of the Glasgow School was Dr. William MacKenzie, perhaps the most distinguished ophthalmic surgeon in the United Kingdom of his time. Very

shortly after receiving the diploma of the Faculty he went to the Continent, where he spent about two years, devoting himself chiefly to ophthalmology. In London he became a member of the Royal College of Surgeons, and began to lecture and practise in diseases of the eye. Fortunately for Glasgow, his success was so limited that he returned to the city. In 1824, with Dr. Monteath, he founded the Glasgow Eye Infirmary, an institution which has always played a large part in Glasgow medical life. MacKenzie was a clinician of the highest standard; he was probably the first to give an accurate description of glaucoma, and his observations on sympathetic ophthalmitis proved to be the first clear description of that disease.

Andrew Buchanan is a name which is written in gold in the annals of the Glasgow School. He was Professor of Physiology and also surgeon to the Royal Infirmary for a considerable number of years. He was the first to give a scientific explanation of coagulation of the blood, and his papers on this subject in 1844 attracted attention throughout the world. His rectangular staff for lateral lithotomy is a well-known instrument, and was used for that operation up till quite recently.

When the British Medical Association met in Glasgow in 1888 the presence of W. T. Gairdner, Professor of the Practice of Medicine in the University and President of the Association, lent distinction to all its meetings. It is probably true to say that no man of the Glasgow School for the past two generations exercised such a wide influence and directed so many minds along scientific paths of

medicine. Glasgow men of middle age who meet in almost any capacity, social or otherwise, find even now a congenial subject of discussion in Gairdner's personality, his teaching, his philosophic mind, his scientific attainments, even, indeed, his absent-mindedness. The physician to him was first of all a naturalist. That was the subject of one of his many addresses. His "Plea for Thoroughness" was in no sense a trite commentary on slipshod methods, but was an earnest appeal for painstaking, careful, detailed investigation. "Old G." was in all essentials the "beloved physician." Gairdner was the first medical officer of health of the city of Glasgow; indeed, it is almost certainly the case that he was the inventor of the whole idea of the special department of public health. His work in this department was characterised by energy and skill and imagination. Associated with him was Dr. J. B. Russell, under whose administration the public health department took first rank in the world. These two men instituted the fever hospitals, an efficient sanitary department, and the city improvement schemes, the result of which has been that Glasgow has been amongst the highest in the records of public health.

Closely associated with Gairdner and of like mind were Dr. Joseph Coats, the first Professor of Pathology in the University, and Dr. James Finlayson, a renowned clinician and teacher, learned in the bibliography of medicine. The Glasgow School of Pathology began to make a name for itself under Coats. He possessed the gift of surrounding himself with assistants and pupils fired with his own



zeal. From the days when some of these left Glasgow to fill chairs of pathology in other schools there has been, under his successor, a constant outgoing stream of pathologists from Glasgow to the medical schools of the Empire.

The Glasgow School makes large claims. Though Cullen did not begin clinical teaching actually in Glasgow, the clinical method and the foundation of medicine essentially in the science of chemistry were established by him in his practice in Hamilton, and expanded when holding the Chair of Medicine. So the idea of clinical medicine came from Glasgow. Then Glasgow claims that through Smellie, of Lanark, the practice of obstetrics was elevated to its proper and honoured place. She claims, too, through Gairdner and Russell, the modern development of the care of public health. And, last, she claims that, through Lister, the greatest of all the gifts to suffering humanity, the discovery of anti-septic surgery, came from her.