

Reviews

MASTERS OF SURGERY

BY

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There are a few books—they are very rare—which convey a meaning far beyond that which their title would suggest and perhaps beyond the intention of the author. Here is such a book,* but even the title gives us food for thought. It is a history of surgery, or rather of surgeons, not in "Germany," which is only 80 years old, but in the "German World," a group reaching far back into the past and from which we ourselves largely derived. The authors wisely base their story on these wide origins and trace it through the splendid achievements of more recent years to the tragedy from which it is just emerging, a tragedy the whole meaning of which it is perhaps impossible for us to realize. Written with a brevity, a clarity, and a restraint which are unusual in German literature, the authors have in the first part of the book gathered an immense amount of information essential to a knowledge of the growth of surgery. In the second part they give short accounts of all the professors of surgery in the "German World" for 200 years. It is a great and moving record.

Europe's First Medical Library

In the year 1060 there came to Salerno a physician to the Norman Duke Robert Guiscard, Constantine of Carthage. Salerno was already a medical school of some renown, but it had no library. Constantine brought from Egypt a number of manuscripts of the works of Galen, Rufus, and Abdul Quasim. He became a lay brother in the Monastery of Monte Cassino, and in this shelter he spent his life translating these manuscripts into Latin and thus giving to Salerno the first medical library in Europe.

A little later Gerhard of Cremona was brought to Toledo by the Emperor Friedrich Barbarossa, whose mother was a Norman. There he was engaged until 1187 in translating some 70 Greek and Arabic medical works by Hippocrates, Galen, and Abdul Quasim, and these works thus found their way into European medicine through the great medical school of Montpellier.

Early in the thirteenth century Albertus Magnus, a Dominican monk who had studied at Padua, Cologne, Freiburg, and Strasbourg, and who succeeded in embracing the whole field of knowledge, began to travel through Western Europe teaching at many universities. He journeyed on foot as a mendicant friar, and among his pupils was Thomas Aquinas, to defend whom from a charge of heresy he journeyed to Paris at the age of 85. He was a copious and fearless writer, and his work in Europe resembled that of Roger Bacon, his contemporary in England.

It was on these foundations that Lanfranc at Lyons and Guy de Chauliac at Paris in the fourteenth century raised French surgery to fame. Lanfranc made a great reputation as a teacher and was the first to teach at the bedside. Guy de Chauliac wrote profusely, and his teaching on the treatment of fractures of the femur by extension and the reduction of dislocations was far ahead of his time. His warning that trephining should never be undertaken at the full moon was perhaps of a more debatable nature.

Greatest Anatomist

In 1537 Andreas Vesalius, who had studied in Paris and Louvain, became at the age of 23 professor of anatomy at

**Meister der Chirurgie und die Chirurgenschulen im Deutschen Raum.* By Professor H. Killian and G. Krämer. (Pp. 232; 32 figures. M. 24.80.) Stuttgart: Georg Thieme. 1951.

Padua. His fame as a teacher spread rapidly, and he was soon lecturing to 500 students. In 1543 he published his great atlas of human anatomy, under the patronage of the Emperor Charles V and Philip II of Spain. The original wood blocks were discovered a few years ago, but, alas, they were destroyed in Munich in the last war. He taught in Bologna, Venice, and Basle, and was probably the greatest anatomist of all time. He was a personal surgeon to Charles V and accompanied him on all his campaigns; on his death he went to Spain as surgeon to Philip II. He died in 1564 after a journey to the Holy Land.

In 1600 William Harvey came to Padua to study anatomy under Fabricius, himself a pupil of Vesalius. After two years he returned to London, where he built up a large practice and was elected to the staff of St. Bartholomew's. He devoted much time to research, but it was not until 1628 that he published in Frankfurt his great work on the circulation, on which he had been engaged for 12 years. During the Great Rebellion he pursued researches on development at Oxford, but on returning to London he found that his house had been plundered and all his manuscripts and collections destroyed.

In France Ambroise Paré must be regarded as the father of French surgery. Born in 1516, he became at the age of 13 a pupil in the Hôtel Dieu at Paris. At 21 he was engaged in the surgical care of the infantry in Italy and later was in the service of the Viscount Rohan, on whose death he was appointed surgeon to the king, and later to the Emperor Charles V. Such was his reputation that at the siege of Metz he was actually smuggled into the citadel to care for the enemy wounded.

In 1552 he performed the first ligature of the femoral artery for an amputation, abandoning the cautery for the first time in history. In 1554 he was Master of the College of Surgeons in Paris. He left behind great works on anatomy and on the surgery of fractures and dislocations, as well as on obstetrics. The Medical Faculty of Paris refused him recognition, but "their names are forgotten, while Ambroise Paré is immortal."

The Scientific Revolution

In the seventeenth century the revolution in scientific thought associated with the names of Kepler, Newton, Galileo, and Huyghens seems to have made little mark upon surgery, but early in the eighteenth century we meet the great names of Petit, Cheselden, and Heister. Petit was director of the new Academy of Surgery in Paris and was regarded as the greatest European surgeon of his time. His work on hernia and fractures is still remembered, and he was the first surgeon to open the mastoid. Cheselden will always be remembered for the great advances he achieved in the treatment of vesical calculus and of cataract. Heister rendered great service to the Dutch army in the wars of Marlborough, and his name is remembered for his work in anatomy, surgery, and in a wide field of natural science.

The latter half of the century saw the rise of two great English surgeons—Percivall Pott and John Hunter—and it is a pleasure to find here such a real appreciation of their contribution to the progress of surgery. Their work is brilliantly described in two short epitomes, the best accounts, indeed, that I have ever read. How many of us remember that to Pott we owe the whole conception of carcinogenic substances? And how can Hunter be better described than as one "whose genius lay in observation and in the elimination of the immature and unscientific, who never wandered in speculation, and whose whole train of thought was built upon experience"?

A striking feature in the progress of surgery has been the influence of war, and of this there is no greater example than the work of Larrey. Just qualified when the French revolution broke out, he lived his life in an atmosphere of war, and he accompanied Napoleon in all his campaigns.

His devotion won the admiration of Napoleon and the deep affection of the soldiers. They saved him from being crushed to death in the crossing of the Beresina after the Russian tragedy, but it was typical of Larrey that, though the fuses had been lighted to blow up the bridge, he rushed back to save a case of instruments which had been forgotten. His writings on war wounds and on frostbite are classical, and he may be regarded as the father of modern military surgery. The authors rightly say, "In this field we are all his pupils."

These brief notes may give some idea of the broad foundations upon which modern surgery has slowly been built and of the part played by many European centres in its development. But they are only chance items from a mass of detail of absorbing interest, the collection of which must have cost years of labour.

Lives of Great Men

There follows an account of all the occupants of surgical chairs in the "German World" for the last 200 years, accompanied by a brief account of each university in which the chair was held. In every case an astonishingly full description is given of the life and work of each man, and we are presented with a group of brilliant pen pictures to which I know of no parallel. It is impossible to refer to them in any detail, but perhaps a few chance notes may indicate their quality.

In many ways Billroth was the greatest of all German surgeons, and naturally a full appreciation of his work at Vienna is given. But under Zurich appears the single line—"Billroth's happy years of work in Zurich left to that university an abiding lustre." Martin Kirschner was professor at Heidelberg from 1934 to 1942: "He was an unbending, upright figure, and God knows he was afraid of no one, not even the Government of the Third Reich."

Viktor Schmieden was professor at Frankfurt from 1919 and was the valued friend of many English surgeons: "Brilliant and successful as was his life in every aspect, so much the sadder was his end. He died in 1945." What deep tragedy lies behind that sentence?

The lives of these great men, many of them our teachers, many of them our friends, form a record of which their country may well be proud. We too are proud to be members of the same profession. We welcome this record of their lives, and we trust that the time will soon come again when we shall work together in one brotherhood for the good of one humanity.

CROWD BEHAVIOUR

On the Objective Study of Crowd Behaviour. By L. S. Penrose, M.A., M.D. (Pp. 74. 10s.) London: H. K. Lewis and Co. 1952.

This short book offers a series of discussions of "static and dynamic mechanisms" involved in the spread of ideas. The "statics" are based on a new and thoughtfully contrived principle defining the power of a small bloc, a principle which may have important applications. The "dynamics" are presented in a variety of arguments and analogies in which the transmission of ideas is likened to the spread of infectious disease. The relation between the statics and the dynamics is not easily perceived.

The new principle which Professor Penrose introduces in the first chapter relates to a small unified bloc within a large population which acts completely at random. He gives neat formulae for the degree of control exercised by blocs of various sizes, and, as a corollary, calculates the "power" of a bloc or of a single vote. The voting situations by which he illustrates his formulae are perhaps not situations in which action is random; but the importance of the principle would seem to lie in situations of sudden fear or novel experience, in which the presence of a calm and resolute bloc of sufficient size might be decisive in preventing panic or disaster.

A further corollary of the "square-root principle" appears at the end of the book, in the discussion of the representation of groups or countries in national or international assemblies. The proposal that a delegate should have voting power according to the square root of the size of his electorate is a sensible variant of the proportional representation theme, though it might be difficult to convince the United Nations of its soundness.

The major part of the book is devoted to descriptions of "crazes," panics, outbreaks of religious enthusiasm, political parties, and preparation for war, all discussed in the language of epidemiology. Pathological ideas are defined as those which imply disruption of the group or destruction of its members. These descriptions are interesting and persuasive, but they are not new, nor are they supported by new evidence. They elaborate, in words such as incubation period, active spread, immunity, and the like, the familiar belief that ideas are "catching." Unfortunately, as Professor Penrose points out, there are no numerical data which would enable objective analyses to be made. The generalized descriptions could apply to any developmental process, be it the growth of a plant or the activity of a mass movement.

The book as a whole is readable and instructive, and many interesting points are made. Its main interest, however, lies in the "square root" principle and in the calculations of the importance of a bloc in relation to groups of varying size. In sudden situations in which large numbers of people face unknown dangers, and for which no preparatory thought has been possible, random and uncontrolled action may be the greatest danger of all. In such circumstances an understanding of the statistical principles of crowd behaviour may be all-important.

LILLI STEIN.

ORIGIN OF SQUINT

New Viewpoints on the Origin of Squint: A Clinical and Statistical Study on its Nature, Cause, and Therapy. By Dr. G. B. J. Keiner. (Pp. 222. 18 guilders.) Holland: The Hague, Martinus Nijhoff. 1951.

A book which brings forward a new idea always excites interest even though, as in the present case, the idea is by no means proved. As a result of the study of 894 cases of squint, of which 656 were suitable for statistical analysis, Dr. Keiner became dissatisfied with the various theories which have from time to time been put forward to explain the incidence of this condition in young people. He was struck, for example, by the earliness of the age of onset of most of his cases: in 18.4% the squint appeared very soon after birth; by the end of the first year 53.9% and by the end of the second 78.3% of the cases showed a strabismus; thereafter he found that the incidence decreases rapidly until only an occasional case was observed to begin after the age of 4. A second observation played an important part in his reasoning—the subordinate role apparently played by errors of refraction, since most of his cases had a refractive error less than 4 D.

Considering that these two fundamental observations are not consonant with the usually accepted theories of the onset of strabismus, he has suggested that all children are born with a potentiality for squint, that correcting influences make themselves felt at about the sixth month of life, and that the cause of the condition is to be sought in some disturbance of the physiological processes through which all children have to pass during a certain period of their development. This disturbance is assumed to be a delay in the myelination of the visual paths, a process which is usually not complete at birth. If the myelination is far from complete the child is born blind. If it is slightly delayed the chances that the infant will squint soon after birth are high, and, if all the tracts and connexions of the visual pathways are completely myelinated at or soon after birth, the possibility of the occurrence of a primary squint can be excluded. The development of the complex reflexes on which orientation of the eyes and binocular vision depend is possible only if the structural framework for adequate functioning is available in the central nervous system. Finally, in the