alongside the medical faculty of the university ; the corpora­tion of surgeons in other capitals, such as those of London and Edinburgh, were modelled upon it.

The 14th and 15th centuries are almost entirely without interest for surgical history. The dead level of tradition is broken first by two men of originality and genius, Paracelsus and Paré, and by the revival of anatomy at the hands of Vesalius and Fallopius, professors at Padua. Apart from the mystical form in which much of his teaching was cast, Paracelsus has great merits as a reformer of surgical practice. “The high value of his surgical writings,” says Häser, “ has been recognized at all times, even by his opponents.” It is not, however, as an innovator in opera­tive surgery but rather as a direct observer of natural processes that Paracelsus is distinguished. His description of “hospital gangrene,” for example, is perfectly true to nature; his numerous observations on syphilis are also sound and sensible ; and he was the first to point out the connexion between cretinism of the offspring and goitre of the parents. He gives most prominence to the healing of wounds. His special surgical treatises are *Die kleine Chirurgie* (1528) and *Die grosse Wund-Arznei* (1536-37),— the latter being the best known of his works. Somewhat later in date, and of much greater concrete importance for surgery than Paracelsus, is Ambroise Paré (1517- 1590). He began life as apprentice to a barber-surgeon in Paris and as a pupil at the hôtel dieu. His earliest opportunities were in military surgery during the campaign of Francis I. in Piedmont. Instead of treating gunshot wounds with hot oil, according to the practice of the day, he had the temerity to trust to a simple bandage; and from that beginning he proceeded to many other de­velopments of rational surgery. In 1545 he published at Paris *La méthode de traicter les playes faictes par hacque- butes et aultres bastons à feu.* The same year he began to attend the lectures of Sylvius, the Paris teacher of anatomy, to whom he became prosector ; and his next book was an *Anatomy* (1550). His most memorable service was to get the use of the ligature for large arteries generally adopted, a method of controlling the hæmorrhage which made am­putation on a large scale possible for the first time in lιistory. Like Paracelsus, he writes simply and to the point in the language of the people, while he is free from the encumbrance of mystical theories, which detract not a little from the merits of his fellow-reformer in Germany. It is only in his book on monsters, written towards the end of his career, that he shows himself to have been by no means free from superstition. Paré was adored by the army and greatly esteemed by successive French kings ; but his innovations were opposed, as usual, by the faculty, and he had to justify the use of the ligature as well as he could by quotations from Galen and other ancients.

Surgery in the 16th century recovered much of the dexterity and resource that had distinguished it in the best periods of antiquity, while it underwent the develop­ments opened up to it by new forms of wounds inflicted by new weapons of warfare. The use of the staff and other instruments of the “ apparatus major ” was the chief improvement in lithotomy. A “radical cure” of hernia by sutures superseded the old application of the actual cautery. The earlier modes of treating stricture of the urethra were tried ; plastic operations were once more done with something like the skill of Brahmanical and classical times ; and ophthalmic surgery was to some extent rescued from the hands of ignorant pretenders. It is noteworthy that even in the legitimate profession dexterous special operations were kept secret ; thus the use of the “apparatus major ” in lithotomy was handed down as a secret in the family of Laurence Colot, a contemporary of Paré’s.

The 17th century was distinguished rather for the rapid

progress of anatomy and physiology, for the Baconian and Cartesian philosophies, and the keen interest taken in com­plete systems of medicine, than for a high standard of surgical practice. The teaching of Paré that gunshot wounds were merely contused and not poisoned, and that simple treatment was the best for them, was enforced anew by Magati (1579-1647), Wiseman, and others. Trephining was freely resorted to, even for inveterate migraine; Philip William, prince of Orange, is said to have been trephined seventeen times. Flap-amputations, which had been prac­tised in the best period of Roman surgery by Leonides and Heliodorus, were reintroduced by Lowdham, an Oxford surgeon, in 1679, and probably used by Wiseman, who was the first to practise the primary major amputations. Fabriz von Hilden (1560-1634) introduced a form of tourniquet, made by placing a piece of wood under the bandage en­circling the limb ; out of that there grew the block- tourniquet of Morel, first used at the siege of Besançon in 1674; and this, again, was superseded by Jean Louis Petit’s screw-tourniquet in 1718. Strangulated hernia, which was for long avoided as a *noli me tangere,* became a subject of operation. Lithotomy by the lateral method came to great perfection in the hands of Jacques Beaulieu. To this century also belong the first indications (not to mention the Alexandrian practice of Ammonius) of crushing the stone in the bladder. The theory and practice of trans­fusion of blood occupied much attention, especially among the busy spirits of the Royal Society, such as Boyle, Lower, and others. The seat of cataract in the substance of the lens was first made out by two French surgeons, Quarré and Lasnier. Perhaps the most important figure in the surgical history of the century is Richard Wiseman, the father of English surgery. Wiseman took the Royalist side in the wars of the Commonwealth, and was surgeon to James I. and Charles I., and accompanied Charles II. in his exile in France and the Low Countries. After serving for a time in the Spanish fleet, he joined the Royalist cause in England and was taken prisoner at the battle of Worce­ster. At the Restoration he became serjeant-surgeon to Charles II., and held the same office under James II. His *Seven Chirurgical Treatises* were first published in 1676, and went through several editions ; they relate to tumours, ulcers, diseases of the anus, king’s evil (scrofula), wounds, fractures, luxations, and lues venerea. Wiseman was the first to advocate primary amputation (or operation before the onset of fever) in cases of gunshot wounds and other injuries of the limbs. He introduced also the practice of treating aneurisms by compression, gave an accurate account of fungus articulorum, and improved the operative pro­cedure for hernia.

The 18th century marks the establishment of surgery on a broader basis than the skill of individual surgeons of the court and army, and on a more scientific basis than the rule of thumb of the multitude of barber-surgeons and other inferior orders of practitioners. In Paris the Col­lége de St Come gave way to the Academy of Surgery in 1731, with Petit as director, to which was added at a later date the École Pratique de Chirurgie, with Chopart and Desault among its first professors. The Academy of Surgery set up a very high standard from the first, and exer­cised great exclusiveness in its publications and its hono­rary membership. In London and Edinburgh the develop­ment of surgery proceeded on less academical lines, and with greater scope for individual effort. Private dissecting rooms and anatomical theatres were started, of which per­haps the most notable was Dr William Hunter’s school in Great Windmill Street, London, inasmuch as it was the first perch of his more famous brother John Hunter. In Edinburgh, Alexander Monro, first of the name, became professor of anatomy to the company of surgeons in 1719,