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 A “ radical cure ” of hernia by sutures superseded the old application of the actual cautery.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 Pare’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 limes. 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out of that there grew the block-tourniquet of Morel, first used at the siege of Besançon in 1674; and this, again, was superseded by Jean Louis Petit’s (1674-1750) screw-tourniquet in 1718. Strangu­lated hernia, which was for long avoided, 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 (i622?-1676) 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 hattie of Worcester. At the Restoration he became serjeant-surgeon to Charles II., and held the same office under James IL 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 Collège de St Côme 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 François Chopart (1743- 1795) and Pierre Desault (1744-1795) 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 (1718-1783) school in Great Windmill Street, London, inasmuch as it was the first perch of his more famous brother John Hunter (1728-1793). In Edinburgh, Alexander Monro (1697-1767), first of the name, became professor of anatomy to the company of surgeons in 1719, transferring his title and services to the university the year after; as he was the first systematic teacher of medicine or surgery in Edinburgh, he is regarded as the founder of the famous medical school of that city. In both London and Edin­burgh a company of barbers and surgeons had been in existence for many years before; but it was not until the association of these companies with the study of anatomy, comparative anatomy, physiology and pathology that the surgical pro­fession began to take rank with the older order of physicians. Hence the significance of the eulogy of a living surgeon on John Hunter: “ More than any other man he helped to make us gentlemen *” (Hunterian Oration,* 1877). The state of surgery in Germany may be inferred from the fact that the teaching of it at the new university of Göttingen was for long in the hands of Albrecht von Haller (1708-1777), whose office was “ professor of theoretical medicine.” In the Prussian army it fell to the regimental surgeon to shave the officers. At Berlin a medico- chirurgical college was founded by Surgeon-General Ernst von Holtzendorff (1688-1751) in 1714, to which was joined in 1726 a school of clinical surgery at the Charité. Military surgery was the original purpose of the school, which still exists, side by side with the surgical cliniques of the faculty, as the Friedrich Wilhelm’s Institut. In Vienna, in like manner, a school for the training of army surgeons was founded in 1785—Joseph’s Academy or the Josephinum. The first systematic teaching of surgery in the United States was by Dr Shippen at Phila­delphia, where the medical college towards the end of the century was largely officered by pupils of the Edinhurgh school. A great part of the advance during the 18th century was in surgical pathology, including Petit’s observations on the formation of thrombi in severed vessels, Hunter’s account of the reparative process, Benjamin Bell’s classification of ulcers, the observations of Duhamel and others on the formation of callus and on bone-repair in general, Pott’s distinction between spinal curvature from caries or abscess of the vertebrae and kyphosis from other causes, observations by various surgeons on chronic disease of the hip, knee, and other joints, and Cheselden’s description of neuroma. Among the great improvements in surgical procedure we have Cheselden’s operation of lithotomy (six deaths in eighty cases), Sir Caesar Hawkins’s (1711-1786) cutting gorget for the same (1753), Hunter’s operation (1785) for popliteal aneurism by tying the femoral artery in the canal of the triceps where its walls were sound (“excited the greatest wonder,” Assalini), Petit’s, Desault’s and Percival Pott’s (1714-1788) treatment of fractures, Gimbernat’s (Barcelona) operation for strangulated femoral hernia, Pott’s bistoury for fistula, Charles White’s (1728-1813, Manchester) and Henry Park’s (1745-1831, Liver­pool) excision of joints, Petit’s invention of the screw-tourniquet, the same surgeon’s operation for lacrymal fistula, Chopart’s partial amputation of the foot, Desault’s bandage for fractured clavicle, William Bromfield’s (1712-1792) artery hook, and William Cheselden’s (1688-1752) operation of iridectomy. Other surgeons of great versatility and general merit were Sharp of London, Benjamin Gooch (fl. 1775) of Norwich, William Hey (1736-1819) of Leeds, David and Claude Nicolas Le Cat (1705- 1768) of Rouen, Raphael Sabatier (1732-1811), Georges de La