or incisions. The distinctive Chinese surgical invention is *acupuncture,* or the insertion of fine needles, of hardened silver or gold, for an inch or more (with a twisting motion) into the seats of pain or inflammation. Wise says that “ the needle is allowed to remain in that part several minutes, or in some cases of neuralgia for days, with great advantage rheumatism and chronic gout were among the localized pains so treated. There are 367 points specified where needles may be inserted without injuring great vessels and vital organs.

Cupping-vessels made of cow-horn have been found in ancient Egyptian tombs. On monuments and the walls of temples are figures of patients bandaged, or undergoing operation at the hands of surgeons. In museum collections of Egyptian antiquities there are lancets, forceps, knives, probes, scissors, &c. Ebers interprets a passage in the papyrus discovered by him as relating to the operation of cataract. Surgical instruments for the ear are figured, and artificial teeth have been found in mummies. Mummies have also been found with well-set fractures. Herodotus describes Egypt, notwith­standing its fine climate, as being full of medical practitioners, who were all “ specialists.” The ophthalmic surgeons were celebrated, and practised at the court of Cyrus.

*Greek Surgery.—*As in the case of the Sanskrit medical writings, the earliest Greek compendiums on surgery bear witness to a long organic growth of knowledge and skill through many generations. In the Homeric picture of society the surgery is that of the battlefield, and it is of the most meagre kind. Achilles is concerned about the restoration to health of Machaon for the reason that his skill in cutting out darts and applying salves to wounds was not the least valuable service that a hero could render to the Greek host. Machaon probably represents an amateur, whose taste had led him, as it did Melampus, to converse with centaurs and to glean some of their traditional wisdom. Between that primitive state of civilization and the date of the first Greek treatises there had been a long interval of gradual progress.

The surgery of the *Hippocratic Collection* (age of Pericles) bears every evidence of finish and elaboration. the two treatises on fractures and on dislocations respectively are hardly surpassed in some ways by the writings of the present mechanical age. Of the four dislocations of the shoulder the displacement downwards into the axilla is given as the only one at all common. The two most usual dislocations of the femur were backwards on to the dorsum ilii and forwards on to the obturator region. Fractures of the spinous processes of the vertebrae are described, and caution advised against trusting those who would magnify that injury into fracture of the spine itself. Tubercles *(φύματα)* are given as one of the causes of spinal curvature, an anticipation of Pott’s diagnosis. In all matters of treatment there was the same fertility of resource as in the Hindu practice; the most noteworthy point is that shortening was by many regarded as inevitable after simple fracture of the femur. Fractures and dislocations were the most complete chapters of the Hippocratic surgery; the whole doctrine and practical art of them had arisen (like sculpture) with no help from dissection, and obviously owed its excellence to the opportunities of the palaestra. The next most elaborate chapter is that on wounds and injuries of the head, which refers them to a minute subdivision, and includes the depressed fracture and the *contrecoup.* Trephining was the measure most commonly resorted to, even where there was no compression. Numerous forms of wounds and injuries of other parts are specified. Ruptures, piles, rectal polypi, fistula in ano and prolapsus ani were among the other conditions treated. The amputation or excision of tumours does not appear to have been undertaken so freely as in Hindu surgical practice; nor was lithotomy performed except by a specially expert person now and then. The diagnosis of empyema was known, anti the treatment of it was by an incision in thc intercostal space and evacuation of the pus. Among their instru­ments were forceps, probes, directors, syringes, rectal speculum, catheter and various kinds of cautery.

Between the Hippocratic era and the founding of the school of Alexandria (about 300 b.c.) there is nothing of surgical progress to dwell upon. The Alexandrian epoch stands out prominently by reason of the enthusiastic cultivation of human anatomy—there are allegations also of vivisection—at the hands of Herophilus (335-280 b.c.) and Erasistratus (280 b.c.). The substance of this movement appears to have been precision of diagnosis (not unattended with pedantic minuteness), boldness of operative procedure, sub­division of practice into a number of specialities, but hardly a single addition to the stock of physiological or pathological ideas, or even to the traditional wisdom of the Hippocratic time. “ The surgeons of the Alexandrian school were all distinguished by the nicety and complexity of their dressings and bandagings, of which they invented a great variety.” Herophilus boldly used the knife even on internal organs such as the liver and spleen, which latter he regarded “ as of little consequence in the animal economy.” He treated retention of urine by a particular kind of catheter, which long bore his name. Lithotomy was much practised by a few specialists, and one of them (Ammonius Lithotomos, 287 b.c.) is said to have used an instrument for breaking the stone in the bladder into several pieces when it was too large to remove whole. A sinister story of the time is that concerning Antiochus, son of Alexander, king of Syria (150 b.c.), who was done to death by the lithotomists when he was ten years old, under the pretence that he had stone in the bladder, the instigator of the crime being his guardian and supplanter Diodotus.

The treatise of Celsus, *De re medica* (reign of Augustus), reflects the state of surgery in the ancient world for a period of several centuries: it is the best record of the Alexandrian practice itself, and it may be taken to stand for the Roman practice of the period following. Great jealousy of Greek medicine and surgery was expressed by many of the Romans of the republic, notably by Cato the Elder (234-149 b.c.), who himself practised on his estate according to the native traditions. His medical observations are given in *De re rustica.* In reducing dislocations he made use of the following incantation: “ Huat hanat ista pista sista damiato damnaustra. The first Greek surgeon who established himself in Rome is said to have been Archagathus, whose fondness for the knife and cautery at length led to his expulsion by the populace. It was in the person of Asclepiadcs, the contemporary and friend of Cicero, that the Hellenic medical practice acquired a permanent footing in Rome. He confined his practice mostly to medicine, but he is credited with practising the operation of tracheotomy. He is one of those whom Tertullian quotes as practising vivisections for the gratification of their curiosity *(De anima,* 15). The next figure in the surgical history is Ce)sus, who devotes the 7th and 8tn books of his *De re medica* exclusively to surgery. There is not much in these beyond the precepts of the Brahmanical sâstras and the maxims and rules of Greek surgery. Plastic operations for the restoration of the nose, lips and ears are described at some length, as well as the treatment of hernia by taxis and operation; in the latter it was recommended to apply the actual cautery to the canal after the hernia had been returned. The celebrated description of lithotomy is that of the operation as practised long before in India and at Alexandria. The treatment of sinuses in various regions is dwelt upon, and in the case of sinuses of the thoracic wall resection of the rib is mentioned. Trephining has the same prominent place assigned to it as in the Greek surgery. The resources of contemporary surgery may. be estimated by the fact that subcutaneous urethrotomy was practised when the urethra was blocked by a calculus. Amputation of an extremity is described in detail for the first time in surgical literature. Mention is made of a variety of ophthalmic operations, which were done by specialists after the Alexandrian fashion.

Galen’s practice of surgery was mostly in the early part of his career (b. a.d. 130), and there is little of special surgical interest in his writings, great as their importance is for anatomy, physiology and the general doctrines of disease. Among the operations credited to him are resection of a portion of the sternum for caries and ligature of the temporal artery. It may be assumed that surgical practice was in a flourishing condition all through the period of the empire from the accounts preserved by Oribasius of the great surgeons Antyllus, Leonides, Rufus and Heliodorus. Antyllus (a.d. 300) is claimed by Häser as one of the greatest of the world’s surgeons; he had an operation for aneurism (tying the artery above and below the sac, and evacuating its contents), for cataract, for the cure of stammering; and he treated contractures by something like tenotomy. Rufus and Heliodorus are said to have practised torsion for the arrest of haemorrhage; but in later periods both that and the ligature appear to have given way to the actual cautery. Häser speaks of the operation for scrotal hernia attributed to Heliodorus as “ a brilliant example of the surgical skill during the empire.” The same surgeon treated stricture