in Suśruta (such as the rhinoplastic) which were of native invention ; the elaborate and lofty ethical code appears to be of pure Brahmanical origin ; and the very copious materia medica (which included arsenic, mercury, zinc, and many other substances of permanent value) does not contain a single article of foreign source. There is evi­dence also (in Arrian, Strabo, and other writers) that the Last enjoyed a proverbial reputation for medical and sur­gical wisdom at the time of Alexander’s invasion. We may give the first place, then, to the Eastern branch of the Aryan race in a sketch of the rise of surgery, leaving as insoluble the question of the date of the Sanskrit com­pendiums or compilations which pass under the names of two representative persons, Charaka and Suśruta (the dates assigned to these ranging as widely as 500 years on each side of the Christian era).

The *Suśruta* speaks throughout of a single class of practitioners who undertook both surgical and medical cases. Nor were there any fixed degrees or orders of skill within the profession ; even lithotomy, which at Alexandria was assigned to specialists, was to be under­taken by any one, the leave of the rajah having been first obtained. The only distinction recognized between medicine and surgery was in the inferior order of barbers, nail-trimmers, ear-borers, tooth-drawers, and phlebotomists, who were outside the Brahmanical caste.

Suśruta describes more tha,n one hundred surgical instru­ments, made of steel. They should have good handles and firm joints, be well polished, and sharp enough to divide a hair ; they should be perfectly clean, and kept in flannel in a wooden box. They included various shapes of scalpels, bistouries, lancets, scarifiers, saws, bone-nippers, scissors, trocars, and needles. There were also blunt hooks, loops, probes (including a caustic-holder), directors, sounds, scoops, and forceps (for polypi, &c.), as well as catheters, syringes, a rectal speculum, and bougies. There were fourteen varieties of bandage. The favourite form of splint was made of thin slips of bamboo bound together with string and cut to the length required. Wise says that he has frequently used “this admirable splint,” particularly for fractures of the thigh, humerus, radius, and ulna, and it has been subsequently adopted in the English army under the name of the “ patent rattan-cane splint.”

Fractures were diagnosed, among other signs, by cre­pitus. Dislocations were elaborately classified, and the differential diagnosis given ; the treatment was by trac­tion and countertraction, circumduction, and other dexter­ous manipulation. Wounds were divided into incised, punctured, lacerated, contused, &c. Cuts of the head and face were sewed. Skill in extracting foreign bodies was carried to a great height, the magnet being used for iron particles under certain specified circumstances. Inflam­mations were treated by the usual antiphlogistic regimen and appliances ; venesection was practised at several other points besides the bend of the elbow ; leeches were more often resorted to than the lancet ; cupping also was in general use. Poulticing, fomenting, and the like were done as at present. Amputation was done now and then, notwithstanding the want of a good control over the hæmorrhage ; boiling oil was applied to the stump, with pressure by means of a cup-formed bandage, pitch being sometimes added. Tumours and enlarged lymphatic glands were cut out, and an arsenical salve applied to the raw surfaces to prevent recurrence. Abdominal dropsy and hydrocele were treated by tapping with a trocar ; and varieties of hernia were understood, omental hernia being removed by operation on the scrotum. Aneurisms were known, but not treated ; the use of the ligature on the continuity of an artery, as well as on the cut end of it in a flap, is the one thing that a modern surgeon will miss some­

what noticeably in the ancient surgery of the Hindus ; and the reason of their backwardness in that matter was doubt­less their want of familiarity with the course of the arteries and with the arterial circulation. Besides the operation already mentioned, the abdomen was opened by a short incision below the umbilicus slightly to the left of the middle line, for the purpose of removing intestinal con­cretions or other obstruction (laparotomy). Only a small segment of the bowel was exposed at one time ; the con­cretion when found was removed, the intestine stitched together again, anointed with ghee and honey, and returned into the cavity. Lithotomy was practised, without the staff. There was a plastic operation for the restoration of the nose, the skin being taken from the cheek adjoining, and the vascularity kept up by a bridge of tissue. The ophthalmic surgery included extraction of cataract. Ob­stetric operations were various, including cæsarean section and crushing the foetus.

The medication and constitutional treatment in surgical cases were in keeping with the general care and elaborate­ness of their practice, and with the copiousness of their materia medica. Ointments and other external applications had usually a basis of ghee (or clarified butter), and con­tained, among other things, such metals as arsenic, zinc, copper, mercury, and sulphate of iron. For every emer­gency and every known form of disease there were ela­borate and minute directions in the śâstras, which were taught by the physician-priests to the young aspirants. Book learning was considered of no use without experience and manual skill in operations ; the different surgical operations were shown to the student upon wax spread on a board, on gourds, cucumbers, and other soft fruits ; tap­ping and puncturing were practised on a leathern bag filled with water or soft mud ; scarifications and bleeding on the fresh hides of animals from which the hair had been removed ; puncturing and lancing upon the hollow stalks of water-lilies or the vessels of dead animals ; bandaging was practised on flexible models of the human body ; sutures on leather and cloth ; the plastic operations on dead animals ; and the application of caustics and cauteries on living animals. A knowledge of anatomy was held to be necessary, but it does not appear that it was systematically acquired by dissection. Superstitions and theurgic ideas were diligently kept up so as to impress the vulgar. The whole body of teaching, itself the slow growth of much close observation and profound thinking during the vigor­ous period of Aryan progress, was given out in later times as a revelation from heaven, and as resting upon an absolute authority. Pathological principles were not wanting, but they were derived from a purely arbitrary or conventional physiology (wind, bile, and phlegm) ; and the whole elaborate fabric of rules and directions, great though its utility must have been for many generations, was without the quickening power of reason and freedom, and became inevitably stiff and decrepit.

The Chinese appear to have been far behind the Hindus in their knowledge of medicine and surgery, notwith­standing that China profited at the same time as Tibet by the missionary propagation of Buddhism. Surgery in particular had hardly developed among them beyond the merest rudiments, owing to their religious respect for dead bodies and their unwillingness to draw blood or otherwise interfere with the living structure. Their anatomy and physiology have been from the earliest times unusually fanciful, and their surgical practice has con­sisted almost entirely of external applications. Tumours and boils were treated by scarifications 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