

cent jelly. It is an exact representation, in miniature, of the bone, which is, in due course, to take its place. It is evident that until the other parts of the fabric have proceeded so far in their development as to have acquired a certain degree of solidity and firmness, and to bear, as well as to require, the support of more massive and rigid structures, this flexible and elastic cartilage may be employed with great advantage as its substitute: for a hard and unyielding structure would, in the early stages of its formation, have even been injurious. But in proportion as the fabric is enlarged, the necessity for mechanical support increases, and farther provision must be made for resistance to external violence.

When, at length, all is prepared for the construction of the bone, the next step to be taken is the removal of the cartilage, which had been erected as the scaffolding for the intended building. But in taking down this scaffolding, the whole must not be removed at once; each part must be carried away, piece by piece, while the operation of fixing in their position the beams and pillars of the edifice proceeds. The way is cleared at first by the absorption of the central part of the cartilage, and a few particles of ossific matter are deposited in its room. While this process is going on, greater activity is displayed in the arteries; they rapidly enlarge in diameter, so as to admit the colouring globules of the blood; and they thus become visible to the eye, which can now follow their course without difficulty. From being at first red points, they soon spread out into lines, of which we trace the branches to a certain extent, although we cannot pursue them to their minuter ramifications. They now assume more active functions, and hasten to execute their task by depositing granules of calcareous phosphate: these are laid down, particle by particle, in a certain determinate order, and in regular lines, so as to form continuous fibres. When a great number of these delicate fibres are gathered together, and connected by other fibres, which shoot in various directions across them, a texture composed of an assemblage of long spicula, and thin plates, is constituted.

In the cylindrical bones, the spicula prevail, and they are