

complete circuit, but emptying into various cavities which interrupt their course.

232. In animals of still higher organization, as the vertebrates, we find the vital fluid enclosed in an appropriate set of vessels, by which it is successively conveyed throughout the system to supply nutriment and secretions, and to the respiratory organs, where it absorbs oxygen, or, in other words, becomes *oxygenated*.

233. The vessels in which the blood circulates are of two kinds: 1. The *arteries*, of a firm, elastic structure, which may be distended or contracted, according to the volume of their contents, and which convey the blood from the centre towards the surface, distributing it to every point of the body. 2. The *veins*, of a thin, membranous structure, furnished within with valves, (Fig. 82, *v*,) which aid in sustaining the column of blood, only allowing it to flow from the periphery towards the centre. The arteries constantly subdivide into smaller and smaller branches; while the veins commence in minute twigs, and are gathered into branches and larger trunks, to unite finally into a few stems, near the centre of circulation.

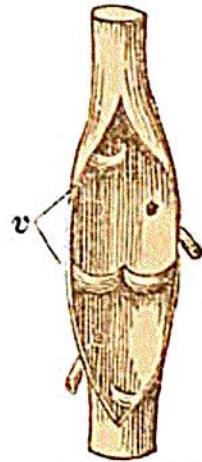


Fig. 82.

234. The extremities of the arteries and veins are connected by a net-work of extremely delicate vessels, called *capillary vessels*, (Fig. 83.) They pervade every portion of the body, so that almost no point can be pricked without drawing blood. Their office is to distribute the nutritive fluid to the organic cells, where all the important processes of nutrition are performed, such as the alimentation and growth of all organs and tissues, the elaboration of bile, milk, saliva, and

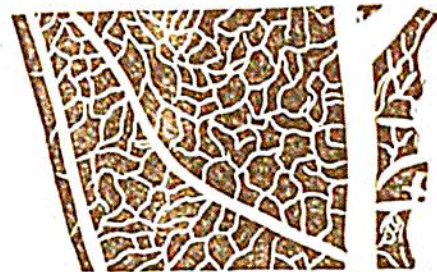


Fig. 83.