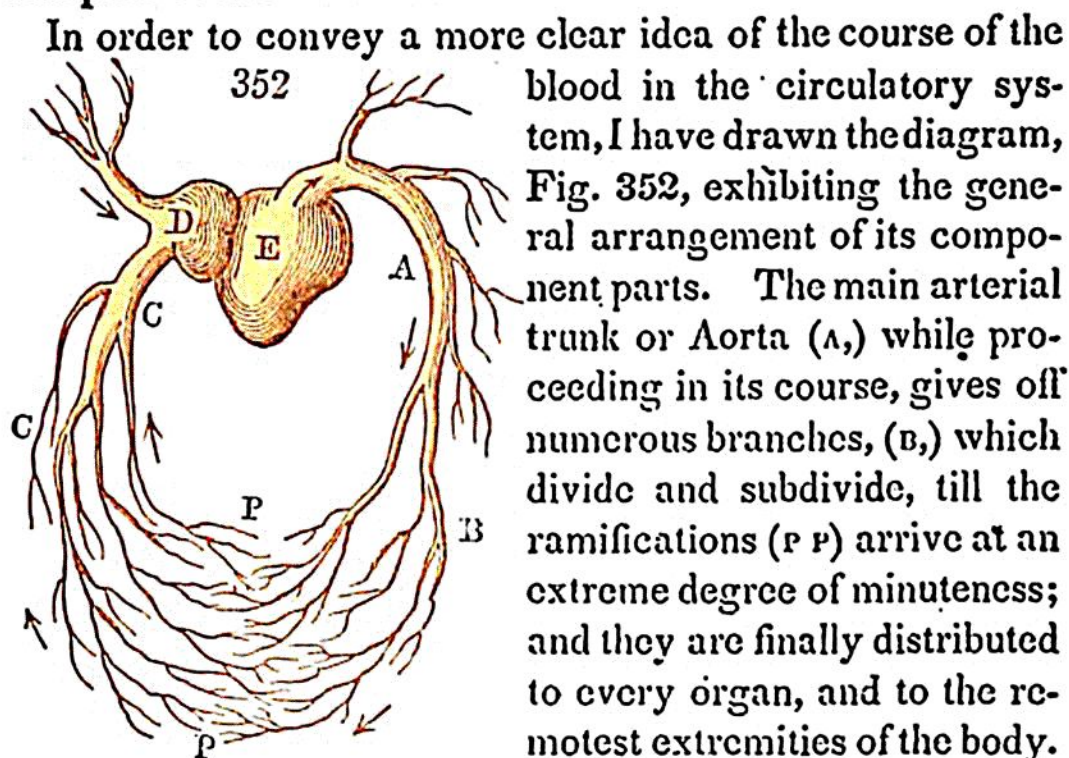


The arteries themselves, especially the main trunk of the aorta, as it issues from the heart, are muscular, and when suddenly distended, contract upon their contents. It was necessary, therefore to provide means for preventing any reflux of blood into the ventricle during their contractions; and for this purpose another set of valves (*v*, Fig. 351,) is placed at the beginning of these tubes, where they arise from the ventricle. These valves consist usually of three membranes, which have the form of a crescent, and are capable of closing the passage so accurately, that not a drop of blood can pass between them.*



They frequently, during their course, communicate with one another, or *anastomose*, as it is termed, by collateral branches, so as to provide against interruptions to the circulation, which might arise from accidental obstructions in any particular branches of this extended system of canals. The minutest vessels (*P P*), which, in incalculable numbers, per-

* In the artery of the shark, and other cartilaginous fishes, where the action of the vessel is very powerful, these valves are much more numerous, and arranged in rows, occupying several parts of the artery. Additional valves are also met with in other fishes at the branching of large arteries.