ly difficult to determine on which side the truth lies; and a suspicion will naturally arise, that the course of the blood in the vessels may not be at all times uniform, but may be liable to partial oscillations, or be even completely reversed, by the operation of particular disturbing causes.

The larger Crustacea possess a circulatory apparatus still more extensive and complete, accompanied by a corresponding increase in the energy of the vital functions. As we follow this system in the more highly organized tribes of this class, we find the powers of the dorsal vessel becoming more and more concentrated in its anterior extremity; till, in the *Decapoda,* a family which comprehends the Lobster and the Crab, we find this part dilated into an oval or globular organ, with very muscular coats, capable of vigorous contractions, propelling its contents with considerable force into the vessels, and therefore clearly entitled to the appellation of *heart.* The distinction between arteries and veins, which can scarcely be made with any precision in the systems of the inferior tribes, is here perfectly determined by the existence of this central organ of propulsion: for the vessels into which the blood is sent by its contractions, and which, ramifying extensively, distribute it to distant parts, are indisputably *arteries;* and, conversely, the vessels which collect the blood from all these parts, and bring it back to the heart, are as decidedly *veins.* The heart of the lobster is situated immediately under the carapace, or shell of the dorsal region of the thorax, in a plane posterior to the stomach, where it is not liable to be pressed against the resisting shell, when the stomach is distended. Its pulsations are very distinct, and are performed with great regularity.

The importance of the heart, as the prime agent in the circulation, increases as we advance to the higher classes of animals, whose more active and energetic functions require a continual and rapid renewal of nutrient fluid, and render necessary the introduction of farther refinements into its