

declined in consequence of his age and infirmities. His doctrine soon acquired popular currency; it was, for instance, taken by Descartes¹⁷ as the basis of his physiology in his work *On Man*; and Harvey had the pleasure, which is often denied to discoverers, of seeing his discovery generally adopted during his lifetime.

Sect. 4.—Bearing of the Discovery on the Progress of Physiology.

IN considering the intellectual processes by which Harvey's discoveries were made, it is impossible not to notice, that the recognition of a creative purpose, which, as we have said, appears in all sound physiological reasonings, prevails eminently here. "I remember," says Boyle, "that when I asked our famous Harvey what were the things that induced him to think of a circulation of the blood, he answered me, that when he took notice that the valves in the veins of so many parts of the body were so placed, that they gave a free passage to the blood towards the heart, but opposed the passage of the venal blood the contrary way; he was incited to imagine that so provident a cause as Nature had not placed so many valves without design; and no design seemed more probable than that the blood should be sent through the arteries, and return through the veins, whose valves did not oppose its course that way."

We may notice further, that this discovery implied the usual conditions, distinct general notions, careful observation of many facts, and the mental act of bringing together these elements of truth. Harvey must have possessed clear views of the motions and pressures of a fluid circulating in ramifying tubes, to enable him to see how the position of valves, the pulsation of the heart, the effects of ligatures, of bleeding, and of other circumstances, ought to manifest themselves in order to confirm his view. That he referred to a multiplied and varied experience for the evidence that it was so confirmed, we have already said. Like all the best philosophers of his time, he insists rigidly upon the necessity of such experience. "In every science," he says,¹⁸ "be it what it will, a diligent observation is requisite, and sense itself must be frequently consulted. We must not rely upon other men's experience, but our own, without which no man is a proper disciple of any part of natural knowledge." And by publishing his experiments, he trusts, he adds, that he has enabled his reader "to be an equitable

¹⁷ Cuv. 53.

¹⁸ *Generation of Animals*, Pref.