

# THE DEVELOPMENT OF THE KNOWLEDGE OF THE CIRCULATION.

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"Life is short, and the Art long, the occasion fleeting, experience fallacious and judgment difficult." This, the aphorism of Hippocrates the father of medicine, expresses in few words the history of our knowledge of so universal a subject as the Circulation of Blood.

Since the dawn of humanity this fact has been ever present and it is only piecemeal, and through slow and interrupted stages that even our present knowledge has been reached, and what have even we, on whom the ends of the world are come, to show as the sum of our knowledge? Even yet we do not know the why or the wherefore of the heart's beating, and when the "golden bowl is broken," who of this wise age can make it whole again?

Our horizon is wider than that of our predecessors, because we stand upon their shoulders, but our vision is no clearer than theirs, and it may do us good to take a sketchy view of the stages by which we have come to such knowledge as we have, and of the men who carried higher the torch which they received.

Like the time when "the earth was without form and void, and darkness was upon the face of the deep," we can look back to the chaos of medical knowledge before the day of Hippocrates, when earth, air, fire and water were the elements known, and blood, phlegm, bile and black bile were the humours of the body, which, disordered in place or in amount were the cause of disease, and when health was regarded as the reward of Dietary pleased, and illness the punishment by Dietary offended.

Across this darkness, in 450 B. C., shone the light of the master mind of Hippocrates, the Asclepiad of Cos. He was above all things an observer and built his practices upon observation and not upon speculation. This was his great contribution to medicine, and though he accepted the prevalent views concerning the elements, and the humours, he did not slavishly follow these to the extinction of the evidences of the senses. Hippocrates knew much of the structure of the heart and its valves, and attributed life to the heat formed in the heart's interior and to the "pneuma" or spirit which came in with the breath.

Aristotle somewhat later amplified this conception of the use of the circulatory apparatus. To Aristotle, as to us, the heart was the cen-