

THURSDAY, MAY 11, 1916.

HARVEY AND ARISTOTLE.

Harvey's Views on the Use of the Circulation of the Blood. By Prof. J. G. Curtis. Pp. xi+194. (New York: Columbia University Press; London: Oxford University Press, 1915.) Price 6s. 6d. net.

UNPRETENDING as it is, this is an admirable little book. It is concise but full of matter, is scholarly and accurate, and, for those who concern themselves with the history of ideas, very interesting. It is a curious thing that of the scores of orators on Harvey none has given any considerable place to a closer discussion of the relations of Harvey to Aristotle and to Galen. Some of us have touched upon the attitude of Harvey towards the overbearing tradition of these two great ancients, and of the degree, or terms, in which he doggedly asserted his independence of it, or in which he admitted their doctrines or approved their speculations; but no one seems to have completed the task of setting forth exactly how far the ideas, let us say, especially of Aristotle and of Harvey, coincided or diverged. This Prof. Curtis has done, and done finally. Unhappily, upon the appreciation of the reviewer there lies a shadow: this able and interesting scholar died, in September 1913, before the publication of his work. At the author's request, this volume has been edited by his colleague, Frederic Lee, of Columbia University.

Prof. Curtis considers first the attitude of Harvey towards the question of the uses of the alleged circulation of the blood. Why, said not only his opponents but also the master himself, why, if the blood is but a nutrient fluid, need it be scampering in every second of time all round the mammalian frame! Here Harvey was himself a little puzzled; about the respiratory functions and the nature of combustion he was, if I may venture to say so, somewhat less far-seeing than had been some of his remote forerunners, or even Columbus. Unfortunately, he abhorred chemists, seeing, no doubt, very unfavourable examples of the craft. With the supposed cooling effect of the pulmonary ventilation Harvey remained fairly content. The redness of the arterial blood he attributed to a filtering effect of the lungs.

Another principal chapter of Prof. Curtis's history is, of course, concerned with the well-known Aristotelian primacy of the heart. This hegemony Harvey ardently contested; only to put in its place the primacy of the blood. Aristotle's cardiac primacy connoted far more than Harvey dealt with, but, narrowly speaking, when Harvey makes the blood the seat of the Innate Heat—not to mention the soul—and speaks of innate heat as an entity, and, furthermore, as an uncaused entity, it is not apparent that Harvey's view was more far-seeing than Aristotle's. Whether the

heart heats the blood, or the blood possesses heat as an innate quality, scarcely seems to us, nowadays, to demand much discussion. Were Prof. Curtis still with us one might have asked of him if the truth were not that the ascendant genius of both these great men was not as philosophers, but as observers. Imagination was not the strength of either of them. Like Aristotle, Harvey, in speculative genius, was surpassed by many of his predecessors and contemporaries. The great Ionian thinkers were full of wonder, as well they might be, whence and how came motion. But this problem did not trouble Harvey overmuch; as an observer he recognised the activity of the circulation, as he saw it, from the *punctum saliens* to the human heart; and when the problem of its origin became pressing he was fain to follow Aristotle, and to find it akin to the quintessence—the motive principle of the stars. The circulation of the blood was one of the subordinate tides of the circulation of the heavens. As regards the heart itself Harvey was no mystic; the blood was the potential, the heart he reduced almost to a muscular pump. But he had no lively idea of the circulation as a hydrostatic and hydraulic mechanism, and, perhaps, before Torricelli and Hales, could not have had.

One may, with all respect, hesitate to be sure that Prof. Curtis was familiar with the pre-Aristotelian thinkers, and the commentaries upon them of Diels, Wellmann, Gomperz, and others. Zeller, indeed, he does mention in one place. It is not altogether reassuring to be referred once or twice to Cicero as a source of our knowledge of their conceptions. From Harvey to Aristotle we are carried back on sound learning, but there, as at a sort of butt end, we stop. The author may have decided, of course, that these were to be the limits of his volume, and properly kept to them. But the history of the circulation cannot be dealt with historically without a wider survey of the doctrine, and beyond the doctrines the ideas, of the *pneuma*, and of what I have called elsewhere the pathetic quest after oxygen, than he had allowed himself to undertake. That elusive stuff "between air and fire," so keenly apprehended by the Ionians and repeated by Galen, is scarcely congenial to Harvey, or, indeed, to Aristotle. Harvey declared that the "innate heat" was not akin to fire, which he said was a sterilising agent; he was probably unaware of the profound and ancient distinction between fire in its capacity as an artificer and as a destroyer.

It is tantalising, under the restriction of present limits, to bring the review of this remarkable book to an end with so inadequate a discussion of the principles discussed in it, and with no note of the many particulars on which one would gladly have tarried. The notes of reference to quotations are constant and accurate; would they had been, or most of them, footnotes. Incessantly to be turning to and fro between the text and an appendix is a nuisance.

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