

Book Reviews

AUDREY B. DAVIS, *Circulation physiology and medical chemistry in England 1650–1680*, Lawrence, Kansas, Coronado Press, 1973, pp. x, 263, illus., \$8.50.

The vast majority of those who have investigated the history of the cardiovascular system have looked at the pre-Harveian period or at Harvey's work, and very little attention has been devoted to events immediately after Harvey. Mrs. Davis, however, tackles the important problem of ". . . the implications of Harvey's circulation doctrine for medical theory and practice in England during the first decades after its announcement. . . ." In doing so she makes an outstanding contribution to scholarly medical history.

It is the author's purpose to compare the major systems of seventeenth-century physiology and to see how they adopted or extended the circulation theory. By so doing she shows that there was a pattern of advance in this field, and that the century is not characterized, as is often stated, by a series of unconnected discoveries and mistakes. She is concerned with those in the seventeenth century who replaced ancient medicine with Paracelsian and Helmontian doctrines, and with those who accepted ancient medicine, but preferred chemical and mechanical methods of explaining it and treating disease, the iatrochemists and the iatromechanists, respectively. After mid-century, iatrochemistry changed into physiological chemistry, for attempts were now made to investigate chemically problems arising from Harvey's doctrine, and chemical remedies were less in vogue. Chemical theories stemming from Van Helmont were extended into the field of physiology, and in particular into the function of the cardiovascular system. Moreover, the combination of chemistry with anatomy is revealed in the physiological theories relating to digestion and circulation. Paracelsian ideas, modified by Van Helmont, encouraged the development in England of a chemical anatomy of disease. The Greek humours were also interpreted chemically in an attempt to relate health and disease with body fluids; the idea of chemical principles in the blood thus extended both anatomy and chemistry.

Thomas Willis was the chief proponent in seventeenth-century England of this chemical movement, and in particular he investigated rationally the cause and treatment of disease. His concept of fermentation causing fevers linked the blood circulation directly with medical chemical doctrine, for he postulated chemical elements carried in the blood, and so united the circulation concept, medical chemistry and disease theory. Experiments on the intravenous use of drugs and on blood transfusion were thereby stimulated. In these endeavours he was aided by Lower, Boyle, Glisson, Charleton, Power, and others. These English investigators were therefore using Harvey's findings to discover true concepts of body nutrition, to suggest uses of blood-based chemistry, and to understand the metabolic properties of blood. In this way they unveiled new insights into the relationships between function and structure.

The text of the book is attractively written and adequately documented. In addition, there is a bibliography and very valuable bibliographical comments. Without doubt, it is one of the most outstanding contributions to medical history of recent years and should be studied carefully by all those concerned with the evolution of seventeenth-century medicine and science, or with the history of physiology. It, however, demands wider popularity, as a work characterized by new and stimulating ideas, suggestions for further research, scholarly presentation, and by literary clarity.