

book reviews

New philosophy at Leiden

Physics at 17th and 18th Century Leiden: Philosophy and the New Science in the University. By Edward G. Ruestow. Pp. 174. (International Archives of the History of Ideas. Series Minor 11.) (Nijhoff: The Hague, 1973.) 24.50 guilders.

WITH the growing interest in the external relations of science during recent years, increasing attention has been devoted to a study of the development of science within various institutional contexts. While the major thrust of this research has focused upon social factors, there has also been some attention given to the development of ideas within the institutions themselves and, particularly in the wake of Kuhn's seminal book, various attempts to delineate the institutional implementation of new scientific ideas to replace the old ones. E. G. Ruestow's study treats the development of one science at a single institution during a two-century period. As such it is a useful case study of the change in scientific orientation within firmly fixed temporal and spatial limits.

The University of Leiden was founded in 1575 as the first Dutch university. With an amazing rapidity it achieved a position of eminence which it has retained through most of its life. Though it had a small beginning with only ten professors, it gradually expanded, and what it lacked in size it made up in quality. Already in the seventeenth century it had a notable library and numerous distinguished professors, not only in scientific subjects, but perhaps even more pre-eminently in humanistic disciplines. Ruestow selects one strand of its development during the first two centuries of the university's life and attempts to trace the fortunes of physics teaching. The bulk of his book centres on the period from Burgersdijk to Musschenbroek (about 1610-1760).

Franco Burgersdijk was the first philosophy professor at Leiden to gain international distinction. As Dibon's careful researches have shown, his textbooks went through many printings not only in Holland, but in England as well, Burgersdijk's books on logic and natural philosophy being part of the staple diet of students at seventeenth-century Oxford and Cambridge. The chapter on him is a useful summary,

though it does not really penetrate as deeply into the sources and characteristic organisation of Burgersdijk's writings as one might wish. After Burgersdijk's passing, his Aristotelian orientation gave way to the attempts at a Peripatetic-Cartesian synthesis in natural philosophy, particularly on the part of his successors Heereboord and De Raey. After a period of Aristotelian counterattack, experimental philosophy begins at Leiden, the first request being made in 1694 to institute an experimental approach to physics. Naturally enough, the early work was on the beaten path of vacuum experiments and other topics which had become subject to this new approach during the previous half century. Early in the eighteenth century, however, the Newtonian revolution reached Leiden and principally through the efforts of 'sGravesande and Musschenbroek became firmly established. Thus Leiden's university became one of the first to espouse the "new philosophy".

Ruestow's story is an interesting one and it bears comparison with the situation in other universities. Though he does not bring to light any new sources, he makes good use of the available ones. Not only has he read extensively in the writings of the professors themselves, but he makes ample use of the documentary history of the university, especially of the magisterial compilation of sources published by Molhuysen more than a half century ago. Moreover, he brings to general attention and summarises the results of various specialised Dutch studies touching on the topic. Perhaps one could have wanted a more detailed bibliography not only of the publications of the professors, but also the hidden articles on their lives. Too often the *Nieuw Nederlandsch Biografisch Woordenboek* is uniquely relied on. Moreover, it seems to this reader that a slight distortion has been introduced by taking the study of physics too much in isolation from other subjects being taught at Leiden (such as botany, medicine, and chemistry, as well as theology). More could also be learned about outside influences, especially from Italy.

In conclusion, here is a good, solid study of a limited area of investigation. It is generally a reliable guide to the subject and, if not as exciting as it might have been, it should serve to recall to English readers the import-

ance of Leiden as a scientific centre. What is more, it is written in a sober and value-free way, which is important at a time when many historical studies are infected with attempts to show that one or another present-day philosophy of science is the uniquely true one.

C. B. SCHMITT

Tropical diseases

Trypanosomiasis and Leishmaniasis with Special Reference to Chagas' Disease. Pp. xii + 353. (Ciba Foundation Symposium 20 (new series) held jointly with the Venezuelan Academy of Sciences and "La Trinidad" Medical Center, Caracas.) (Elsevier/Excerpta Medica/North Holland: Amsterdam, London and New York, 1974.) Dfl.46; \$18.40.

AMONG the most important diseases of man in tropical and subtropical countries are Chagas' disease in America, sleeping sickness in Africa and leishmaniasis, in its various forms, in both the Old and New Worlds. These diseases are very different from one another but they have one thing in common; they are all caused by flagellates belonging to the order Kinetoplastida. Clinicians and research workers all over the world are studying isolated aspects of the biology of these flagellates and this symposium represents a commendable attempt to bring some of them together and to pool their findings and thoughts.

The fourteen papers in this collection are all by recognised authorities. Three are devoted to Chagas' disease, three to sleeping sickness and two to leishmaniasis. Six cover all three diseases and the discussions which follow each paper also contribute to this common theme.

The taxonomic framework of the Kinetoplastida is summarised by W. H. R. Lumsden and there are chapters on ultrastructure (K. Vickerman), nutrition and biosynthesis (W. Trager), intermediary metabolism (I. B. R. Bowman), chemotherapy (B. A. Newton) and drug resistance (W. Peters). Sleeping sickness is considered from the points of view of epidemiology (J. R. Baker), pathogenesis (L. G. Goodwin) and immunity and antigenic variation (P. de Raadt). The coverage of leishmaniasis is restricted to its epidemiology (R. S. Bray) and the clinical immunopathological aspects of American cutaneous leishmaniasis (J. E. Convit and M. E. Pinardi). The epidemiology of Chagas' disease is described by R.