

Book Reviews

Theodor Schwann. Leben und Werk. REMBERT WATERMANN. Dusseldorf, L. Schwann Verlag. 1960; pp. 364. Illustrated. DM.36.

Lettres de Théodore Schwann. MARCEL FLORKIN. Liège, Societe Royale des Sciences, Universite de Liège, 1961; pp. 274. Illustrated.

On his first excursions into Biology the medical student cannot help noticing the name of Theodor Schwann (1810–82), as the discoverer of the cellular structure of the animal body. He may even look into the English text of his classical work: *Microscopical Researches into the Accordance in the Structure and Growth of Animals and Plants* (*Mikroskopische Untersuchungen über die Übereinstimmung in der Struktur und dem Wachstum der Thiere und Pflanzen*. Berlin 1839; English translation by H. Smith. London. Sydenham Soc. 1847).

What the student is normally not told, however, is that Schwann was a genius whose biological discoveries were by no means limited to the cell. He was not only a histologist of historic achievement, but also a painstaking experimental and analytical physiologist. As such he discovered pepsin in 1836. Perhaps his most important discovery is that of the microbial origin of fermentation. This is embodied in a terse communication to the assembly of German Naturalists and Physicians at Jena on 26 September 1836. A glass bulb was then demonstrated which had been boiled and sealed and in which the *Amanuensis* to the Berlin Anatomical Institute Theodor Schwann had 'failed to observe any Infusoria and hence concluded that spontaneous generation did not exist'. Indeed, Schwann observed the multiplication of yeast globules and made them responsible for alcoholic fermentation, as we now know (through the work of Florkin) prior to Cagniard de la Tour (1836), although Schwann's work was not published until 1837. Schwann was one of the first numerous immortal discoverers who were gathered into the small workshop of Johannes Müller's (1801–58) laboratory. Yet in spite of his devotion to Müller he would not agree with the latter's vitalism. On the other hand, he was no materialist, but adhered to Cartesian dualism—The 150th anniversary of his birth has been suitably honoured by the publication of two detailed biographies—one by the Liège physiologist Marcel Florkin (*Naissance et déviation de la théorie cellulaire dans l'Oeuvre de Théodore Schwann*. Paris. Hermann. 1960) who has been studying Schwann's work in all its varied aspects for many years, and the other—the work under notice—by a medical historian. This is a good book which carefully places each of Schwann's discoveries in its historical setting. Moreover Schwann's own experimental records are extensively reproduced and annotated, together with new manuscript material from letters and diaries. It is invaluable as a source book in the history of biology and a fine assessment of one of the greatest figures in nineteenth century science and medicine. It is conveniently supplemented by Florkin's new collection of Schwann's letters sumptuously printed and illustrated. This contains material of the greatest biographical importance, for example, on the relations between Schwann and Johannes Müller.

WALTER PAGEL

The Surgeon's Glove. JUSTINE RANDERS-PEHRSON, M.A. Springfield, Illinois. Charles C. Thomas. pp. 95. 12 illustrations.

It is often difficult to determine accurately the exact place, time and person connected with the introduction of any particular surgical technique. The introduction of the thin rubber glove as an integral part of aseptic surgery serves as a good example of