

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

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this. This handy and interesting little book, based upon a wide search of the relevant literature, helps to solve the problem. In 1843, or even earlier, Sir Thomas Watson, who had lost his wife from puerperal fever, threw out the suggestion that an accoucheur might with advantage wear a glove, impervious to fluids, for the safety of the mother in labour. At that time, however, it was not easy to make a glove 'impervious to fluids and yet so thin and pliant as not to interfere materially with the delicate sense of touch required in these manipulations'. The discovery of the method of vulcanization of india rubber brought the possibility nearer, and when, in 1878, Abbott introduced an improved method of vulcanization, Thomas Forster took out a patent for making india-rubber gloves. At first rubber gloves were thick and used chiefly to protect the hands of pathologists or surgeons in dealing with infected tissues. Even in the operating theatre the first use of thin rubber gloves in 1889 was to protect the hand of the theatre sister in Halsted's clinic from deleterious effect of antiseptics. The credit for using these gloves to protect the patient from possible infection from the surgeon's hands seems to be due to Bloodgood, who began to wear them soon after seeing them used by Miss Hampson. Others (e.g. Zoege) have claimed priority but on the evidence here put forward their claims cannot be substantiated.

Surgeons will find this account interesting to read, valuable for reference, and useful as a reminder that the obvious is often missed, even by clever and trained observers.

ZACHARY COPE

Johann Christian Reil. 1759-1813. RUDOLPH ZAUNICK. *Nova Acta Leopoldina.* Bd.22, No. 144. Leipzig: D. A. Barth. 1960; pp. 159. Illustrated.

If a man's claim upon our attention is to be acknowledged a century and a half after his death, it has to be based on something stronger than an anatomical eponym or a bare mention in histories of psychiatry. Reil deserves more recognition as physician, reformer and theorist than he has had. The Academy of Natural Sciences and the Medical Faculty of Halle, where Reil was a student and professor, combined in February 1959 to celebrate in some pious exercises the two hundredth anniversary of his birth, and to recall his achievements. The four orations delivered on this occasion are here published. They do justice to his varied accomplishments, though they lack the concentrated erudition and force of Neuburger's masterly commemorative address, delivered on the centenary of Reil's death.

The first oration, by Dr. Eulner, reviews Reil's chequered and busy life, and is followed by appendixes which include a full bibliography of his writings, of the dissertations presented by his pupils, and of articles about him or relevant to his scientific work. The appendix to the second oration, by Prof. Scharf, on Reil's anatomical studies, contains a complete set of reproductions of the copper engravings in which Reil demonstrated the structure of the brain. Professor Pönitz appraises Reil's psychiatric writings, separating the chaff of his far-fetched psychotherapeutic proposals from the grain of his shrewd speculations and insight into first principles. The concluding address by Dr. Piechocki, describes Reil's notable services to Halle as Municipal Physician. Much hitherto unpublished material from the town archives is here assembled, confirming the picture of Reil as a conscientious, outspoken and humane doctor with a strong sense of public duty.

AUBREY LEWIS