The choice of epiloia as an example of a purely ectodermal disease is misleading, both on account of its rarity and of the mesodermal tumours in the dermis, heart and kidney which seem to co-exist in a great majority of the cases.

Most text-books of human embryology suffer from one serious defect, namely, the inadequate picture which is conveyed of that most interesting of all newborns, the human babe at birth. This book is no exception. Ballantyne's account in that infrequently read book "Antenatal Pathology and Hygiene" still remains one of the best and most concise. Embryology should not only help the student to understand adult anatomy but also neonatal anatomy and physiology, upon which so much depends. The fact that the fœtal and newborn kidney is lobulated is not mentioned in the text of this book, though it is frequently so depicted in the figures, while the term fontanelle does not appear within its covers.

The book is beautifully produced. Typographical errors are few and the photographs and figures are well reproduced. It is a credit to the publishers that they find themselves able to offer such a profusely illustrated volume at so reasonable a price. The student will undoubtedly appreciate the excellency of the production, as well as the concise presentation of the many and important aspects of human embryology now made available to him.

D. V. DAVIES.

FRANÇOIS MAGENDIE (1783–1855)

Francois Magendie

Pioneer in Experimental Physiology and Scientific Medicine in Nineteenth Century France. By J. M. D. Olmsted. Pp. xvi+290+1 plate. (New York: Schuman's, 1944.) 5 dollars.

PROF. J. M. D. OLMSTED has followed up his excellent life of Claude Bernard with one of François Magendie, Bernard's teacher and one of the great figures in the rise of scientific medicine. Trained in Paris during the period of the Napoleonic Wars, Magendie worked in a period when medicine began to discard the traditions of the eighteenth century and to depend on more critical and exact observation and experiment. Bichat, Laennec and Corvisart were his seniors, and Flourens and Le Gallois his contemporaries. French medicine was in the ascendant, and Magendie, professor at the Collège de France from 1831, contributed to its development by his work in physiology and pharmacology and by his uncompromising criticism.

Magendie was before all things an experimental physiologist, and his name survives in the 'Bell-Magendie law' of conduction in the spinal roots and in the 'foramen of Magendie', the opening through which the cerebro-spinal fluid passes from the interior to the exterior of the brain. Probably the Bell-Magendie law is rightly named, for Charles Bell, the brilliant Scottish anatomist, and François Magendie both had a hand in its discovery; but Magendie always felt that the main credit was his and did not hesitate to say so. Prof. Olmsted's critical account of the long controversy shows that he had some reason for his claim, since his were the decisive experiments. But his contemporaries favoured Bell, and Magendie's quarrelsome habits may have made them glad to do so.

In medicine Magendie remained the experimental physiologist. With his lack of respect for tradition, he found much to overthrow though he had little to put in its place. He had no use for copious bleeding and purging, the established treatment of the time, though his internes were so distressed at this neglect of his patients that they sometimes bled them without his knowledge. His studies of the effects of drugs on animals (the beginnings of experimental pharmacology) did not encourage him to use more than a few well-tried medicines, and he was often content to leave the disease to run its course. Flourens wrote of him: "To young doctors he was fond of saying 'You have not tried doing nothing yet. . . . More often than not we cannot discover the cause of a disease. Our only function is to assist Nature, which always tries to restore the normal state, by refusing to hinder her; we can hope only sometimes to be skilful enough to aid her'." But his patients relied on him none the less, and he was far kinder to them than to most of his scientific colleagues.

Nor did Magendie neglect to look for the causes of disease. He made a special journey to Sunderland in 1831 to report on the outbreak of cholera there. He was appalled at the wretchedness, filth and poverty of the houses, but argued that the disease was not contagious. His views on contagion seem, in fact, to have been based on the belief that a disease could not be contagious if he himself had been exposed to it and had not been infected. He had certainly exposed himself, in Sunderland and afterwards in the Paris epidemic of 1832, where he worked day and night at the Hotel Dieu with a small band of internes and nurses.

Magendie's views were certainly wrong sometimes, and he would not admit that they were until he had seen the experiment which disproved them. He was intolerant, resented criticism, made enemies and was regarded by many as a monster of cruelty for his vivisection of animals. But he was fearless and honest, and medical science owes a great deal to his deliberately sceptical attitude, forcibly maintained and upheld by his great authority as a physiologist. Prof. Olmsted's biography is careful, well-balanced and interesting. It is to be hoped that he will write more of this period which he knows so well.

E. D. ADRIAN.

HAY-FEVER PLANTS

Hay-fever Plants

Their Appearance, Distribution, Time of Flowering and their Role in Hay-fever, with special reference to North America. (Plant Science Book, Vol. 15.) By Roger P. Wodehouse. Pp. xxvi+245. (Waltham, Mass.: Chronica Botanica Co.; London: Wm. Dawson and Sons, Ltd., 1945.) 4.75 dollars.

FOR a plant to be an important cause of hay-fever it must shed its pollen freely, must produce large amounts of pollen, must grow in great abundance, and must have active allergens in the pollen grains. Most wind-pollinated plants satisfy the first condition, but anemophily and entomophily offer little guide to the second. Relative abundance is of immense importance as a distinguishing factor between species of great and small importance in hay-fever; thus only about thirty-five species of grasses out of the thousand or so in the North American flora are important hay-fever plants. Lastly, the allergic qualities of species also differ widely, appearing with fair constancy in the following fam-