## Michael Faraday

Man of Simplicity. By Prof. James Kendall. Pp. 196+4 plates. (London: Faber and Faber, Ltd., 1955.) 12*s.* 6*d.* net.

THERE is no resisting Prof. James Kendall. He begins at a disadvantage, for one picks up his book with the thought that this is another small book about Faraday, of which there are already rather too many. Then it is a little disconcerting to meet in the early pages a sentence such as this: "Humphry invited Michael to come to the Royal Institution for an interview". Despite the author's apology, this familiar mode of address of the two principal characters seems unnecessary, and it assorts rather oddly in passages where third persons, for example Wollaston, are accorded the more formal surname. There is, also, to one reader at least, some over-emphasis on the 'simplicity' of Faraday's nature. Simplicity and ingenuousness had their place in a complex character; but to stress them unduly is to give a false impression of the man as a whole.

Personal prejudices on points of this kind are, however, forgotten after a few chapters, and the reader finds himself swept along on the tide of Prof. Kendall's enthusiasm. The treatment of Faraday's scientific work does not pretend to be very full or comprehensive; but the story of his life is admirably and sympathetically told, the significance of the principal researches is brought out in the narrative, and the result is a very readable book. It is, incidentally, to anyone who has heard Prof. Kendall lecture on the subject, a delightful reminder of the lecturer.

## Atoms in the Family

My Life with Enrico Fermi—Designer of the First Atomic Pile. By Laura Fermi. Pp. 284+15 plates. (London: George Allen and Unwin, Ltd., 1955.) 18*s.* net.

ONE could wish that every great scientist had a wife with such literary skill and sense of humour as Mrs. Laura Fermi. Her book is much more than just a biography of her famous husband, the late Enrico Fermi, though naturally he is the chief person in it. It gives snatches from his childhood and from his life as a student and young professor, unpretentiously written against a background of the Italian scene and the rising of Fascism. From there the narrative moves to the United States and those—for her—most puzzling years 1939–45 in which Fermi, though still technically an enemy alien, moved about between New York, Chicago and Los Alamos on mysterious errands. Only when the atom bomb had blasted the veil of secrecy did Mrs. Fermi and the other wives of scientists find out that the first atomic pile had come into operation three years previously, and that Fermi had been one of the leading minds in that stupendous enterprise which resulted in Hiroshima and Nagasaki.

But Mrs. Fermi keeps an admirable balance between the great events around which her life had to shape itself and the small everyday things of which that life consisted. She is a good observer of people, and her pen-portraits are admirable. Many of the people I knew in Los Alamos have come to life again for me through her shrewd observations. Nor does that shrewdness desert her when it comes to describing her own husband. He lives in these pages as his friends knew him—admirable but not faultless, and likeable even in his faults.

Naturally, the book should not be considered as material for the historian, but practically all the scientific facts she quotes are correct (and, by the way, admirably presented for the non-scientist), and I have found only a few minute and quite irrelevant inaccuracies in the events she writes about. This is a human, engaging and entertaining book, written at a time when Fermi was still in good health, before the illness which caused his untimely death soon afterwards.

O. R. FRISCH

## The Botany of Cook's Voyages and Its Unexpected Significance in Relation to Anthropology, Biogeography and History

By Prof. Elmer Drew Merrill. (Chronica Botanica, Vol. 14, Number 5/6.) Pp. iv+161–384+plates 80–92. (Waltham, Mass.: The Chronica Botanica Co.; London: Wm. Dawson and Sons, Ltd., 1954.) 4.75 dollars (cloth).

DR. MERRILL is a systematist and plant geographer of great seniority. In this curious and uneven book he examines the herbaria collected on Captain Cook's first and second voyages. His main purpose is to decide to what extent there was a diffusion of crop plants, weeds and cultures across the Pacific Ocean between America and Asia before Magellan's voyage in 1520. This is a problem which has for a long time interested scholars, and it has recently been popularized through the Kon-Tiki expedition and the writings of T. Heyerdahl.

There undoubtedly is room for further critical discussion of the botanical evidence for and against the early blending of American and Polynesian cultures. But such a discussion would need to be objective, urbane, and free from prejudices and polemics and innuendoes about the competence of other workers in the field. Dr. Merrill's book fulfils none of these requirements. One must only regret that in this book Dr. Merrill's knowledge and experience have been deployed in a manner which does not enlist the confidence of the reader nor illuminate the subject.

E. ASHBY

## Optics

By Arnold Sommerfeld. (Lectures on Theoretical Physics, Volume 4.) Translated by Otto Laporte and Peter A. Moldauer. Pp. xiii+383. (New York: Academic Press, Inc.; London: Academic Books, Ltd., 1954.) 6.80 dollars.

THE appearance in English of this part of Sommerfeld's lectures on theoretical physics is a very welcome addition to the literature. In Sommerfeld's course of lectures, theoretical optics formed an important section which does not correspond to any definite course in most British universities. In Britain the material, in so far as it is treated, would usually be found either in a course on electromagnetic theory in general, which would not allow time for detailed treatment of many optical problems, or in a course on physical optics, which usually includes less of the mathematical theory. This text by one of the masters in the mathematical treatment of wave problems will nevertheless be valuable for use with courses of both kinds and of great help to those who want to take optics further than the normal undergraduate teaching permits.

As in the other volumes, the use of powerful mathematical techniques is presented and applied without losing sight of the physical ideas behind them, or of the fact that one is dealing with knowledge which, in the last resort, is derived from experiment.

R. E. PEIERLS