

the approximate additivity of certain physical properties in terms of atomic and structural features—which the authors have developed to enable them to estimate numerical parameters of the average molecule once the qualitative pattern has been established by other means. Such methods are especially useful when investigating substances that are intrinsic mixtures, that is, those the molecules of which vary in detail around a norm.

Part 3 of the book ("Principal Physical and Chemical Properties") is concerned largely with the relation of the physical and mechanical properties of coals to their chemical structure, with their oxidation, and with the phenomena that occur when coals are heated. In the chapter on pyrolysis and carbonization, though it is of great interest, insufficient attention is paid to the detail necessary to enable fundamental studies markedly to influence the practice of carbonization.

In parts of the book there is a lack of balance; for example, less prominence might have been given to views and investigations now superseded. Frequently the impression is conveyed that the results and methods discussed have been established with certainty and are universally accepted; the inexperienced reader might wrongly deduce that little remains to be done. There is sometimes a tendency to discount important divergences between different sets of results. These remarks apply especially to parts of Chapters 5-7, 11, 13 and 14.

"Coal Science" is excellently conceived and produced and reasonably priced. Few misprints have been noticed; only the column headings of Table V.4 are misleading from this cause. Stimulating to read and provocative of thought, this book contains a wealth of information indispensable to the student and research worker. It is to be warmly recommended as the most topical and critical text-book available on its subject.

I. G. C. DRYDEN

THE PROBLEM OF PERSONALITY

The Three Faces of Eve

By Corbett H. Thigpen and Hervey M. Cleckley. Pp. 313. (London: Martin Secker and Warburg, Ltd., 1957.) 18s. net.

PERSONALITY has been defined as the integrated activity of all the reaction-tendencies of the daily life of the individual. Yet we must admit that even in normal persons the integration is not always as complete as it might be. Most people, for example, when deep in thought, have found that they have driven a car long distances, but not appreciated they have done so until they 'come to themselves'. Most of us show a different personality when having tea with the vicar and at a riotous reunion. Mothers often say to an erring small daughter, "That's not my little girl", and, indeed, in the sense in which it is said, it is not, since the child is behaving in a way that actors call 'out of character'. However, in spite of such deviations, most personalities are sufficiently united to stand considerable strain before disintegrating. Yet there are others of the hysterical type which divide easily and the reactions split into different groups. This may result in a hysterical fugue, or loss of memory, or in more complicated conditions, dual or multiple personalities. The classical case of the latter was described by Morton Prince in his famous "Clinical and Experimental Studies in Personality". This was an account of a Miss Beauchamp, whose personality divided into a

number of parts, some of which were unaware of the consciousness of the others. This may seem difficult to those who do not understand that consciousness is the appreciation of incoming sensations in the light of acquired and inherited reactions. It is apparent that a partial group of such reactions can interpret sufficiently to acquire consciousness.

"The Three Faces of Eve" is a popular account, told in a journalistic fashion with plenty of wonderment, of a woman whose unhappy marriage led to such a breaking of her personality. This was apparently the result of childhood stress with regard to death: first of a man drowned in a pond; and then of seeing her dead grandmother, and being forced, against her will, to touch her face. However, it seems that an unhappy marriage had much to do with the immediate behaviour, since the patient's recovery was consequent to her divorce and re-marriage to a man who was more suited to her and whom she loved.

The case-history was read before the American Psychiatric Association in 1954 and published in the *Journal of Abnormal and Social Psychology*. It certainly shows a number of curious personalities, but how far these were unconsciously encouraged by the psychiatrists in charge of her, and how far they emerged spontaneously, it is difficult to say. The morality of expanding technical scientific articles about real persons into matter which is little better than a novel is questionable. Those who enjoy reading sensational psychiatric books will find this one amusing, but the serious workers will probably wish to go to the original publication.

CLIFFORD ALLEN

PHYSICAL OPTICS

Physical Optics

By Dr. R. A. Houstoun. Pp. vi+300+16 plates. (London and Glasgow: Blackie and Son, Ltd., 1957.) 40s. net.

Wave Optics

Interference and Diffraction. By Dr. C. Curry. Pp. viii+155. (London: Edward Arnold (Publishers), Ltd., 1957.) 21s. net.

DR. R. A. HOUSTOUN'S book is intended for two types of post-intermediate university student—the physics specialist in the early stages of the honours course, and the non-specialist whose study of optics is subsidiary to that of some other branch of science. For the physics student, as it is essentially a shortened version of the author's "Treatise on Light", it should be a useful introduction to advanced work; although in some places, notably in the chapter on the electromagnetic theory, the attempt to simplify by mere abridgement seems to have operated the other way. The range of topics should give readers of the second type a sound and accurate background, but here it must be remembered that the biologist and the engineer, for example, expect to treat a physics book as a work of reference. It is true that the principles are well explained, and that many recent developments are mentioned; but one feels that a fuller descriptive treatment of spectroscopy, photometry, colour, and the eye, would have been welcomed by such readers. The action of prism and grating on a 'light-pulse', and the problems of Talbot's bands, which figured prominently in the intriguing Chapter 21 of the "Treatise" forty years