

Typical errors are as follows: "The bromination of  $\text{CF}_3\text{CH}:\text{CH}_2$  at  $140^\circ$  yielded  $\text{CF}_3\text{CHBrCF}_2\text{Br}$  and the addition of bromine to  $\text{C}_6\text{F}_5\text{CH}:\text{CH}_2$  . . . yielded  $\text{C}_6\text{F}_5\text{CHBrCH}_2\text{Br}$ "; ". . . where fluorination of hexafluorobenzene yields  $\text{C}_6\text{F}_5\text{Cl}_6$ "; "Henne and Zimmer isolated  $\text{CF}_3\text{COOBr}$  and  $\text{CF}_3\text{COOI}$  . . ."; "Roylance, Tatlow and Worthington reacted *o*-dichlorobenzene with  $\text{CoF}_3$  and  $\text{LiAlH}_4$  in ether at  $0^\circ$ "—fortunately they did not, and so live on.

Criticism is always easy, but the presence of numerous errors makes the book difficult to read and often misleading, particularly when errors in physical data occur in the tables. In some places the references are mixed up. One has thus to question continually whether what one has just read is factually correct or not, and how much weight should be given to the evidence. There is no doubt, however, that this could be a most useful compendium, and it is to be hoped that a corrected second edition will soon make its appearance.

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## BRITISH MARINE FISHES

The Observer's Book of Sea Fishes

By A. Laurence Wells. Pp. 160 + 64 plates. (London and New York: Frederick Warne and Co., Ltd., 1958.) 5s. net.

THIS moderately priced little book will enable anglers and others to identify almost all the fishes they are ever likely to meet in British seas, and from that point of view it is a useful addition to a pocket series designed to serve the needs of amateur naturalists and other observers of the things, natural and artificial, among which we live. At the price it may have been impossible to provide an entirely fresh set of pictures, and most of those here were first presented to the public by the same publishers in 1925, in "Fishes of the British Isles" by J. Travis Jenkins. They were not new then, for they were taken from the well-known works of Day (1880-84), Smitt (1892-95) and others. Perhaps it is just as well that a complete set of original illustrations was not attempted, if the unfamiliar (apparently new) coloured pictures on Plates 25 and 36 are fair samples of what might have been. The crude picture of the opah will yet serve for identification, but the misrepresentations of what purport to be corkwing and ballan wrasses will not. The figure labelled corkwing bears but little resemblance to the real thing, while that named ballan wrasse is a travesty of a beautiful fish; it looks as if it might be a copy at second or third hand of the ballan wrasse in Jonathan Couch's four-volume work (1862-65).

The classification and nomenclature are modern but accounts of habits and life-histories are all too often ancient, the author seemingly having derived information too freely and uncritically from Couch (excellent as he was for his day) and other authors of the latter half of last century and the early years of this: he appears to be unfamiliar with much modern work. A few hours in a good library searching through the past thirty or so years of the relatively few scientific English language journals devoted to marine biology and fisheries would have saved him from repeating some hoary legends and would have provided him with much material not yet published in a popular work. Thus, for example, he would have learnt how the angler-fish does use its lure and would not have given what is surely another version of the

account by Aelian as quoted by Couch, and he would have been led to modern knowledge of the migrations and breeding of the mackerel. These are but two instances among many which invite criticism.

This book is a lost opportunity, for there is no good modern book, scientific or popular, describing British fishes. There is a very real need for such a book, with authoritative text and new first-class illustrations: the present book provides neither.

D. P. WILSON

## MEASUREMENT OF PERSONALITY

Personality and Motivation Structure and Measurement

By Professor Raymond B. Cattell. Pp. xxiv + 948. (London: George G. Harrap and Co., Ltd., 1957.) 55s.

IN this monumental work, Prof. R. B. Cattell gives a detailed description of the systematic scheme which he has developed for the assessment of personality in terms of the major 'source traits'—those basic personality traits which determine characteristic behaviour and its variations in different individuals.

Three types of data have been utilized: ratings made by associates on forty-two types of behaviour characteristic such as adaptable, cautious, frank, etc.; answers to questionnaires on the same types of behaviour; and scores on a heterogeneous collection of objective tests, including tests of knowledge about interests, predictions of behaviour, perception and recall of related material, projective tests, autonomic reactions and various physiological measures. These data he has submitted to the statistical technique known as 'factorial analysis'; and he terms the factors extracted 'source traits', upon which are based the related types of real-life behaviour and test and questionnaire response. Undoubtedly he has carried out the statistical procedures with enormous care and ingenuity. Some of the factors extracted seem reasonable enough, for example, the motivational tendencies he calls 'ergs', such as 'self-assertion', 'escape', etc. Some of the factors relating to general personal characteristics are also widely recognized, for example, 'cyclothymia versus schizothymia', 'dominance versus submissiveness'; but others are more dubious. However, it is very difficult to accept the existence of some of these 'source traits' as basic personality factors, because of their apparent lack of relationship to the questionnaire and test data from which they are said to be derived. For example, 'premsia', a type of emotional sensitivity which differs from emotional integration, is related to a preference for being a bishop to being a colonel, a lack of physical endurance and a tendency to be brought to tears by discouraging circumstances. Although one can see a possible relationship between some of the personality factors and the associated objective test data, the tests require a much more thorough psychological investigation before their significance to personality can be established.

It is often difficult to follow Prof. Cattell's argument, since it lacks clarity, or to understand how he has used his source data. Though he must be congratulated on presenting a valuable outline approach to these questions, and on the range of data he has amassed; yet far more detailed experimental investigation is necessary before the existence of the 'source traits' and their inter-relationship within the personality is finally acceptable.

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