

The past two decades have seen a massive expansion in studies of lateralization, encompassing a multiplicity of professional and scholarly disciplines, such as philosophy, physical and social anthropology, medicine, genetics, biochemistry, evolutionary biology, aesthetics and, of course, cognitive psychology. Such wide-ranging interest in a topic is necessarily stimulating; but it is also confusing in that none of us have all of the necessary intellectual skills to assess the contributions of these disciplines; and it is worrying in that some areas of the subject have been taken over by what might be called a lunatic fringe, who perpetrate notions which vary from plain silly through to the almost downright dangerous, invoking what has been called 'neuromythology' or 'neurophrenology' to provide quasi-scientific support for far-reaching policy changes (as for instance in much of the 'hemisphericity' literature).

Laterality therefore has a need for three types of scholarly work. First, adequate textbooks and introductory works which are solid and unconfusing enough to recommend to undergraduates, but which still contain some indication of the excitement and interest of the field, without giving uncritical support to the latest seven-day wonder which will probably become one of the unreplicable (or worse, unrepeated but much quoted) studies in the literature. It is probably safe to say that there are no such books available at present, and the present work isn't one, nor would claim to be so. Second, there is a need for monographs which review perhaps narrow portions of a vast and inchoate literature, attempting to sort the wheat from the chaff, and providing the research community with relatively reliable conclusions, albeit in small areas. Third, there is a need for theoretical syntheses, which will pull together the disparate threads of laterality into a coherent whole. Needless to say, this latter category neither exists, nor is likely to do so in the near future. It is the second category that we should be looking to, and which probably the present work would like to be included under.

The authors have concentrated on the problem of lateral preferences—the title rightly indicating that items such as handedness may well be preferential in origin, skill differences manifesting only secondarily—and have concentrated on hand preference, foot preference, eye dominance and ear dominance. These four preferences have the advantage of being assessed relatively easily, particularly by means of questionnaires, and the authors claim to have studied some 20 000 persons (albeit not in the same study). After devoting chapters to the measurement of these preferences and their distribution in the population, the authors discuss the question of generalized 'one-sidedness', and then look at genetic, social and cultural accounts of individual differences in preference, including the role of birth stress and neurological damage in determining lateralization. Finally there is discussion of the relation of lateral preferences to reading skills and cognitive and sensori-motor abilities in general, followed by a chapter on the sensory preferences of eye and ear. The book is not primarily a review of published literature, although there are some 600 references, many of them obscure and of interest, but is instead an account of the authors' own researches over a period of years. Although a fairly high proportion of the results have been published previously in research journals, and to a certain extent this is the 'book of the papers', it is useful to have all of the work gathered together in one place. Nevertheless at times the authors are too dominated by their own data, and as a result make conclusions which are hardly compatible with other work. Thus their conclusion that, 'family members do not resemble each other in the side of preference' (p. 225) is hardly compatible with the

rest of the literature on familial trends in handedness, and gives undue precedence to their own study, which is, by genetic standards, relatively small. Indeed the chapter on genetics is perhaps the weakest in the whole book; thus the authors seem never to have heard of dominance variance in their account of polygenic models, give a rather garbled account of Annett's genetic model of handedness, devote an unnecessary appendix to undergraduate-level population genetics, and finally appear to give support to the old howler that the presence of a single dominant or recessive gene should result in 25 per cent of a population being of one phenotype, and 75 per cent of the other phenotype.

As a result of their willingness to reject genetic models of laterality, the authors devote an inordinate amount of space to retrospective studies attempting to link perinatal stress with subsequent left-handedness or atypical lateralization. In that chapter, as in others, they fail to consider the limitations of questionnaire studies of a group such as left-handers, who can rightly regard themselves as stigmatized by society, and who often have a greater interest in lateralization than right-handers, and therefore might show a tendency to look for past events which 'explain' their condition, and hence artifactually bias the results. Similarly, in all of the studies in which degree of lateralization is assessed, there is no questioning of the quite likely possibility that personality differences in the manner in which questionnaires are completed might be the real cause of apparent differences in lateralization, or that response-biases or experimenter-demand effects might explain some of the results (a particular danger with such large questionnaire studies).

Probably all reviewers check the author index of a book for their own name, and inevitably check those pages most carefully. It is perhaps hard luck for an author if it is the reviewer's references which are misquoted or misused, as the reviewer can rarely resist revealing the fact, as a sort of pseudo-random check on the book as a whole. I was flattered and disappointed to find my work misused on p. 118 (where it is treated as containing original data, whereas it is in fact a review and hence should not have been included in calculating the population mean) and rather more surprised to realize that the very same work had been totally ignored on p. 76 where its conclusion, that MZ twins show greater concordance than DZ twins, is the exact opposite of that of the authors.

Such errors of detail recur throughout the book, and reduce its overall value. Nevertheless it is a useful book; in particular its strong points are that it covers topics which have been relatively ignored (such as the particularly valuable chapters on eye dominance and ear dominance) and it has a wealth of miscellaneous empirical detail which even if requiring careful sifting will be of great interest to all committed chiologists. Nevertheless the book does not provide the 'coherent theoretical tapestry' which the authors would wish, and regrettably it is not the definitive work that the rest of us need so much.