



Book Review

Right Hand, Left Hand: The Origins of Asymmetry in Brains, Bodies, Atoms and Cultures. By Chris McManus. London: Weidenfeld & Nicolson. ISBN 0 297 64597 8.

Reviewed by Nigel Hunt

The more one thinks on it, the stranger it seems to devote a whole book to the difference between left and right.” (p 337) On first sight of this book, a winner of the Wellcome Trust Prize, I agreed, though I do believe that any attempt to highlight the problems experienced by the sinistralists among us in our anti-lefthanded society is to be welcomed. One which goes a long way beyond issues of right or lefthandedness to explore asymmetry in a multitude of forms, and does it in an entertaining yet scientifically rigorous way deserves applause. This is such a book.

We lefthanders have a hard life. It is not good in our society to be on the left (in more ways than one!). A chamber pot used to be called a left-handed sugar bowl, coffins tend to be lefthanded; even the girl on the television testcard had her picture printed the wrong way round because the powers-that-be determined that viewers should not see she was lefthanded!

When I first picked it up the book seemed to try to cover too much. Why attempt to incorporate a discussion around the whole of asymmetry when the focus should have been on handedness? The implications of being left- or right-handed in our society are enormous. We live in a world designed for righthanded people, from the shape of scissors to the state of our language. This in itself is a lot for a psycholo-

gist to discuss. I soon realised that in order to understand handed behaviour it was crucial to draw on human understanding from many areas outside psychology. For instance, handedness is not a socially learned behaviour. If it was then roughly half of all societies would tend to be lefthanded. McManus shows from research in many cultures at many times that there have been no lefthanded cultures. Lefthanded people are in the minority everywhere. McManus provides an excellent exposition of why, not only in the matter of handedness, but across a wide range of human behaviours, psychologists should look beyond academic psychology for a more complete explanation.

This is not a straightforward psychology book. McManus draws on his knowledge and understanding of much wider issues, and provides examples from a wide range of intellectual and other pursuits, to help us understand asymmetry in human experience. Psychologists working in other fields should draw the broader lesson that in order to understand any aspect of behaviour we need to study it in its wider context.

McManus recognises that advances have been made in this area in many subjects: anatomy, developmental biology, neuroscience, psychology, anthropology, sociology and “even” cosmology. He also notes at the outset

that “even if I am uncomfortably aware that I am not an expert in even a fraction of the requisite areas, I can claim to be an enthusiast” (xv). This enthusiasm seeps through the whole work.

To provide a flavour of the content of the book, it begins with a case study of a 19th Century patient who had his heart on the right side of his body, highlighting the problems associated with explaining why the heart is usually on the left. Pasteur’s discovery that molecules in the body are asymmetric and Dax & Broca’s finding that language is usually situated in the left hemisphere of the brain follow. McManus then explores the importance of left and right in different cultures. From here McManus explores the work of Huxley and Kant, the (near) symmetry of bodies, and molecular asymmetry (drawing on cosmological explanations). The book then has a number of chapters on handedness (McManus’s expertise), examining genetic explanations, hemispheric differences in the brain, and cross-cultural differences in handedness. Biology, cosmology and physics are explored, and the case is argued for linking the laws of physics with biology (lefthanded neutrinos and righthanded DNA).

The role of social interaction in determining literalised behaviour such as writing and driving is examined. I have had my long-held illusions about both shattered. I have always felt disadvantaged being a left-handed writer in a right handed world, pushing my pen and smothering my writing with my hand has always been my explanation for sloppy writing. McManus does not allow us to get away with that, noting that many writing systems are right to left, even when most writers are righthanded in all cultures. It is the same with driving. It is far more complicated than blaming Napoleon for introducing driving on the right across Europe as a great leveller. I did not realise half

of Austria drove on the left until the Anschluss!

The next two chapters are unashamedly populist, focusing on errors relating to lateralisation and the “unashamedly lightweight” (xvii) chapter relating to trivia and miscellanea..... The final two chapters are an attempt to integrate work in symmetry and asymmetry, providing a single picture of asymmetries, from explanations at the molecular level, through living organisms, to social and cultural factors.

This is the sort of good populist science book which demonstrates the breadth and depth of understanding and knowledge of the author yet presents material to non-experts in an entirely accessible way. McManus presents arguments for asymmetry in places we never think about, such as the design of churches, comments in the Bible and in Ancient Greece, and the design of animals and plants.

There are problems with the book. As a populist book, there will be sections which many will find difficult, which do not sit well with the flavour of much of the rest of the book, particularly the biological sections. Nevertheless, the reader should find many things to fascinate and educate.

McManus wrote extensive footnotes and endnotes while preparing the book. Many of these are to be found at the back of the book, many more are to be found on the internet (<http://www.righthandlefthand.com/main.htm>). The pdf file of hypernotes extends to 233 pages, along with 44 pages of references – another book!

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