

-behaviour relationships had been devised. The next (Californian) series is associated with the names of R. W. Sperry and J. Bogen. These patients were carefully studied after exceptionally radical commissure-section; but, regrettably, only a proportion of the patients have been described in the literature. The most recent (New England) series is smaller in number and the patients underwent less extensive neurosurgery.

Michael Gazzaniga, the senior author of this book, has a unique advantage: personal experience of both the Californian and New England series of patients. In addition, he is the originator of many important experiments on 'split-brain' monkeys, and he described some of the earlier findings in 1970, in his book *The Bisected Brain*. In the present book we are brought up to date with recent findings from the New England series. The intention is to "... reestablish a basic, sober framework for considering studies on cerebral commissurotomy", as a counter to "... a barrage of popular and overdramatized accounts ... largely written by people who had never seen a patient ..." (p6).

Will the reader (if he is not put off by the title of the new book, or by the statement on p1 that "The corpus callosum, the largest fiber tract in the human brain, contains over 200 million neurons ...") find what is promised? Sadly, no. The majority of observations reported in the book have already been published in the journals. There is no systematic attempt to group the

observations by the extent of surgery, by the duration or amount of pre-surgical pathology, or by the length of time since surgery at the time of testing. Indeed, a large part of chapter 3 is based on the performance of a single patient (P. S.). Yet we read (p85): "In contrast to all the other patients examined in both series is case P. S.", in whom "... we observed an incredible range of language skills in both hemispheres ...". Certainly, the observations forming the basis of chapter 3 were non-linguistic, but no reasons are given why they were not confirmed on other more typical patients from either series.

And yet, in another framework, the book can be recommended. It is essentially an account of the authors' wide-ranging views on such topics as the origins of lateral asymmetries, the role of language, the basis of intelligence and consciousness, the relationship between perception, imagery and memory, and many more such issues. Most of the opinions are original and provocative; and as opinions they are well argued. In due course adequate evidence to support these opinions may be forthcoming. Meanwhile, the book will serve as an intellectual stimulus to a wide range of neuroscientists who are accustomed to making only painfully slow progress in their own laboratories or clinics: given an "integrated mind", what limit is there to our theorising?

G. Ettliger

*G. Ettliger is Professor of Neuropsychology at the Institute of Psychiatry, University of London, UK.*

## Whale primer

*Whale Manual '78*. Friends of the Earth. Pp. 152. (FOE: 9 Poland Street, London, 1978.) £2.

WHALES are by now a well established *cause célèbre* of the conservation movement, popular on television, and almost universally admired for their benign dispositions and mournful singing. So it comes as something of a jolt to digest the idea that whales could produce a sustainable 2 million tonnes of protein annually (some say), worth perhaps some \$690 million with present prices and utilisation patterns. This little book may help to provide the information to help develop a balanced view on whales and their management, although it remains an enigmatic subject in a manner in which the management of herrings or anchoveta is never likely to be.

In many ways this book is quite excellent. It is ideal as a brief, fact-filled primer on whales and the man-

agement thereof, as long as one accepts that the authors have a (tenable) point of view which significantly colours the text. Not that the contents exclude other people's views, but they are dealt with somewhat erratically. For example, there is some lack of understanding of the reality of economic life, allied to a consistent undertone that, really and truly, whales ought not to be considered as a resource at all but as some sort of monument to man's humanity to mammals. This lack of appreciation of economic factors is illustrated in chapter 6 where the justification for discussing the economics of the whaling industry solely on the basis of the Japanese industry and not that of the USSR is partly the fault of a deficiency of data but mainly results from the fact that the same economic arguments apply to both nations; and in any case slaughtered whales are not interested in "the nicety of distinction between state capital and private capital" (p46). Although the whales may not be bothered in the short run, to dismiss this vital distinction in the exploitation

of what is, as FOE indeed rightly stress, an international common property resource, is not only unjustified but is dangerous. Not only do Soviet fleets operate under significantly different economic parameters, but, as again the FOE stress elsewhere, the USSR has much to gain from any curtailment of solely private capitalistic exploitation.

Overall, the book is fairly good value as it is full of the sort of data and arguments that anyone interested in whales would want to see. It suffers from being an update of a 1975 version, which was an update of the 1972 original. By now it has had a total of 17 authors, and accordingly the deliberately simple style is now patchy, frequently staccato and occasionally irritating. Presentation of the data is generally satisfactory, although some still refers only to 1974-75 which is perhaps disappointing. The few illustrations are rudimentary, but the bibliography is appropriate for the context. The stated objective of the book is to spread information to a wider public, and in this it is likely to succeed. Those in a position to make influential decisions, however, will want to study elsewhere too.

Michael Dunn

*Michael Dunn is Principal Lecturer in the Marine Resources Research Unit at Portsmouth Polytechnic, Portsmouth, UK.*

ANNOUNCING . . .

## AN EPISTLE TO DR. BENJAMIN FRANKLIN

G. Arthur Mihram, Ph. D.

Featuring . . .

### Tele-cybernetics:

"Political Science in our  
Age of Tele-communications"  
(cf. Ampere and Plato, not Wiener).

### A Law of Nature:

Scientific Method (Popper's World 3)  
Neural Modelling (Popper's World 2)  
Genetic Modelling (Popper's World 1)

are operationally isomorphic processes for  
the very survival of all Life on Earth.

At leading bookstores or direct from:

EXPOSITION-UNIVERSITY PRESS  
Hicksville, N.Y. 11801

OR the author: P.O. Box 234  
Haverford, PA 19041 USA (\$4.75, post paid.)