

Research remedies

Complementary Medicine: A Research Perspective

by Charles Vincent and Adrian Furnham
Wiley: 1997. Pp. 305. £24.95, \$44.95

Iain Smith

There continues to be widespread interest in complementary medicine both from consumers and from their vocal providers. But how do these groups handle the frequent criticism that there is little robust evidence that their therapies actually work?

Additions to the blossoming literature that reiterate the same message — that the research evidence for clinical effectiveness is poor — are always welcome. This new book is especially valuable because it aims to educate the interested researcher or critical analyst about other research aspects of complementary medicine. It includes welcome introductory sections on why people use complementary medicine and the sociology of illness.

But the section on research methods for evaluating effectiveness misses two opportunities. The first is to develop the model best suited for evaluating effectiveness when the randomized controlled trial is deemed either inappropriate or impractical. Many believe

that a modification of the $n=1$ trial approach, beloved of psychologists, is one way forward. It is a shame that the arguments for such radical alternatives to the randomized clinical trial are not developed more fully, particularly as practitioners of complementary medicine need to be encouraged to embrace the need for research, appropriate research training and systematic high-quality, outcome-led, clinical audits.

The second missed opportunity is that the authors could have said more about appropriate outcome measures. These measures are important in the evaluation of most therapies, and basic points about their development and use should be made.

The book does not include all complementary therapies. Notable deliberate omissions include aromatherapy (the panacea for midwifery problems), hypnotherapy and counselling (the panacea for the 1990s). What is more, its focus on particular therapies does not always help in condition-based prescribing — that is, in deciding which therapies might be best for which condition. Even that approach, however, would probably still be contentious.

As with all new textbooks, this one is already out of date. For example, there is nothing on the use of St John's wort (hypericum) for depression; the summary table comparing orthodox and complementary

medicine does not take into account the policy drive for evidence-based medicine and cost-effectiveness; and there is no mention of the recently funded UK Medical Research Council trial on manipulative therapies for chronic back pain in primary care or of UK moves to form a central chiropractic register, similar to that being put in place for osteopaths.

It is always easy to point out acts of omission when reviewing a book: it is almost like saying "Well, if I had written it, then...". This book is easy to read, free of overt values and jargon, and sensibly referenced and laid out. It is a clear account of some of the key issues facing both researchers into complementary medicine and their friends and critics. Although probably lacking in depth for most seasoned observers, it is ideal for beginners or those with a casual interest in the field. □

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Everyman physics

Giant Molecules: Here, There, and Everywhere...

by Alexander Yu Grosberg and Alexei R. Khokhlov

Academic Press: 1997. Pp. 314. \$39.95, £24.95

Edwin L. Thomas

Who would have thought a pair of theorists would produce a very readable and perceptive monograph on polymer physics? Yet this is exactly what Alexander Yu Grosberg and Alexei R. Khokhlov have done in this attractive book.

The authors take us through the fundamentals of macromolecules in an intuitive and entertaining way. They hold the reader's interest by including occasional banter on the relevance of the topic being discussed. They question whether it is sufficiently important to be included and whether their treatment of it will be clear to the reader. We are treated not only to good physics, but also to some history and poetry mixed in with anecdotes about prominent polymer scientists.

The topics covered include much of modern polymer statistical physics, especially polymer solutions and melts, as well as biopolymers and their role in molecular biology. Noteworthy chapters are the one on the "Physics of High Elasticity", which includes an excellent tutorial on the thermodynamic relationship of ideal rubber elasticity to ideal gases, and another on the "Dynamics of Polymer Fluids", which considers the critical role of entanglements and the concept of reptation in explaining the viscosity and diffusivity of macromolecules.

The mental pictures evoked of polymer chains and their mutual interactions give

It's a frog's life



This amorous pair of *Phyllomedusa trinitatis* is demonstrating one of the nine documented reproductive methods used by frogs native to the islands of Trinidad and Tobago. But not only is there plenty of variety in the sex life of these particular Caribbean frogs, the diversity of reptilian and amphibian life in general on these two islands is also remarkable. *Amphibians and Reptiles of Trinidad and Tobago* by John C. Murphy (Krieger, \$72.50, £66.50) is said to be the only book dealing with the entire herpetofauna of the islands, covering 130 species and subspecies. It includes identification keys, colour photographs and distribution maps.

deep insight into how these molecules behave in the dilute, semi-dilute and melt regimes. The authors go lightly with derivations, but the ones they do are easy to follow and well discussed in terms of physical consequences. The explanations of the interplay of entropy and internal energy in the coil-globule transition and phase transitions of polyelectrolyte gels are about the clearest I have read anywhere. The authors strongly believe that understanding the role of the primary, secondary and tertiary structure of biopolymers will become an increasingly important aspect of polymer physics. They put forward probability arguments to speculate about the role of chance in the origin of life and in the evolution of both the chemical and the biological properties of biomacromolecules.

Simple cartoons and colour plates depict the more spatially intriguing aspects of the various molecules and models. An accompanying CD-ROM (produced by S. Buldyrev of Boston University) greatly enhances the text, with simulations illustrating, for example, protein folding. What is more, the ambitious reader can alter the program parameters on the CD-ROM to see their influence and even produce customized movies. □

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The catch at Scarborough in 1932, when North Sea fish stocks were healthier.

tion. In two world wars, when fishing ceased in the North Sea for several years, the stocks recovered dramatically, demonstrating both that fishing did affect the number of fish and that regulation could be effective. Moreover, excessive fishing since then has caused the collapse of stocks of herring off Norway, and of herring and mackerel in the North Sea, all previously measured in millions of tons. The most dramatic and notorious collapse has however been that of the cod stocks on the Grand Banks of Newfoundland.

The history of this once great fishery, and the fish that supported it, is the central theme of this fascinating book by Mark Kurlansky, once a fisherman himself. He follows the story from the 'discovery' of great shoals of fish, previously the secret of canny Basques, by Giovanni Caboto (alias John Cabot) in 1497, to the present day. In so doing, he ranges widely. The importance of dried and salted cod as a staple food, sustaining international trade from the Vikings, through the American Civil War, until Clarence Birdseye invented frozen fish, is vividly described. He relates its link to the slave trade, and the rise of the codfish aristocracy of Boston, and much else besides. The story is brought to life with amusing anecdotes, keen observations and telling quotations from conversations with fishermen, scientists and politicians from countries all around the North Atlantic. Rightly, he identifies no single culprit: most disasters occur when several things go wrong at once, and this seems to be no exception.

This is, however, much more than just a history of the cod fisheries. Nicely produced in a fashionably small format, the book contains many aptly chosen quotations, excellent illustrations and numerous recipes for preparing cod, especially the dried and salted varieties. Even if your opinion of the product, like mine, coincides with that of Auden

and MacNeice, there is much to savour here.

With the latest research (*Nature* 385, 521; 1997) suggesting that the cod stock of the North Sea is teetering on the edge of collapse, this is, above all, a cautionary tale we would do well to heed. The oceans may be vast, and their resources great, but so is our capacity to harm them. □

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Oceans of truth

Cod: A Biography of the Fish that Changed the World

by Mark Kurlansky
Walker: 1997. Pp. 294. \$21

John Shepherd

If you want to know how a flush toilet may help in the cooking of dried or salted cod, what W. H. Auden and Louis MacNeice thought of the product, how it contributed to the causes of the American War of Independence, or why fishing for cod has been banned in Canadian waters for the past five years, you should read this book.

The belief that the oceans and their resources are limitless and invulnerable to harm from human activities persisted for a very long time. In about 400 BC, Clytemnestra asked: "There is the sea — who shall exhaust the sea?", in Aeschylus's drama, the *Oresteia*. In 1883, T. H. Huxley stated: "I believe, then, that the cod fishery... and probably all the great sea fisheries, are inexhaustible: that is to say that nothing we do seriously affects the number of fish. And any attempt to regulate these fisheries seems... to be useless." In the twentieth century, we have successfully disproved these hypotheses. The great whales were reduced almost to extinc-

Flights and fights

Concorde and the Americans: International Politics of the Supersonic Transport

by Kenneth Owen
Smithsonian Institution Press: 1997. UK publisher Airlife. Pp. 232. \$35, £24.95

Paul Duffy

The story of civil aviation and aircraft is usually told in terms of engineering, technical and marketing achievements, but equally interesting tales centre on the politics and economics of each important project.

This, according to the cover, is the story told in *Concorde and the Americans*. In fact, only two pages make any more than a passing reference to economics, and these, under the heading "uneconomy class", relate to figures from reports by British Airways and the former British Overseas Airways Corporation.

Concorde first took to the air in 1969 and has been flying daily services between New York and Europe for something over 20 years. But the development of supersonic transport (SST) was plagued by bitter political controversies over the environmental and economic effects and by strained relationships between the United