Definition by doing

Andrew Miller

European Biophysics Journal. Managing editor Peter Bayley. *Springer-Verlag. 6/yr. DM472, $172.*

WHAT is biophysics? Simply what biophysicists do? Better, it might seem, is a definition that emphasizes that biophysics is a technique-orientated subject: "the application of the concepts and methods of physics to problems in biology", perhaps.

If we take this response and compare it with what goes on in university departments of biophysics, or with the contents of biophysics journals, complications become evident. While most biophysicists specialize either in the determination of the molecular structure of biological macromolecules or in neurophysiology, the definition encompasses a much wider field including animal mechanics, environmental biophysics, transducer and radiation physics, and the application of microelectronics to biology. Research on topics such as these is usually carried out in more traditional departments — of physics, zoology or engineering, for example — not in departments of biophysics. Nor indeed is it dealt with in the *European Biophysics Journal*, the successor to *Biophysics of Structure and Mechanism*. Titles of the articles in the four issues available for review show an emphasis on biological membrane processes and on the application to biology of specific physical techniques, particularly nuclear magnetic resonance and photon correlation spectroscopy. Occasional theoretical articles also appear.

It may be that four issues is too small a sample from which to make a judgement, but it is surprising to find no papers on X-ray analyses. It is this physical approach that has had the greatest impact on biological science, and indeed it has led to the recognition of structural molecular biology — a problem-orientated rather than a technique-orientated discipline. Perhaps the researchers involved in this area of work tend to send their papers to other journals.

The editors state that the scope of their journal encompasses molecular structure and interactions, membrane and receptor biophysics, thermodynamics and energetics, and theoretical biophysics. This a fair description, with the proviso that molecular structure is rather weakly represented, and within this compass the papers are of good quality and of considerable interest. It also suggests that a nominalist attitude is appropriate and that biophysics is what biophysicists do. □

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Inside insects from North America

J. F. V. Vincent

Archives of Insect Biochemistry and Physiology. Executive editor Richard T. Mayer. *Alan R. Liss. 6/yr. North America $250 (institutional), $85 (individual); elsewhere $273 (institutional), $108 (individual).*

THIS is a journal which starts out with high standards — prospective authors are informed, in a remarkably complete "guide", that "Articles that are confirmatory in nature or deal with analytical methods previously described will not be accepted". To this list can be added reviews, book reviews, comment and reply.

Archives of Insect Biochemistry and Physiology, then, is solely a vehicle for original research papers. Acceptable areas are endocrinology, development, neurobiology, behaviour, pharmacology, nutrition, carbohydrates, lipids, enzymes, proteins, peptides, nucleic acids, molecular biology and toxicology. Clearly the emphasis is more on the biochemistry than the physiology of insects. The papers published to date have been a mixed bunch — some very good, a few rather poor (could these be the "invited" contributions so necessary in a new journal?) — and they vary in length from only 1,000 words to 4,000 or more. Each issue contains eight to ten papers.

Editorial style is mostly good, with tables, figures, summary and acknowledgements clearly set out. Not so the references which are arranged in order of appearance in the text, a perverse system which reduces the usefulness of this essential part of any paper. The quality of production is really excellent, with very clear typefaces on glossy paper which takes half-tones very well, and the overall format is generous even though the subscription price is not high. Publication time is slow, however — an average of two months for refereeing and a further ten months before appearance.

Archives . . . is superficially in direct competition with Pergamon's *Journal of Insect Physiology* and *Insect Biochemistry;* a number of other publications also take

work in this area. It seems unlikely that there are enough good papers to keep another journal going, especially one aiming to be international. Perhaps this is why, within eighteen months of its initiation, the journal has gone from drawing its contributions from around the world to representation from the United States alone. I can't imagine that it will make much headway in many countries outside North America, but maybe it's not meant to, since only five of the 31-strong editorial board come from outside that continent. This is the American house journal of insect physiology and biochemistry. □

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Routes to renewal

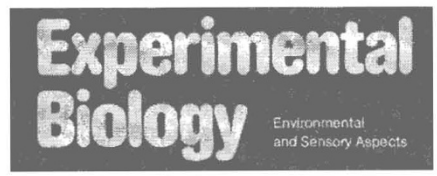
Alan Brafield

Experimental Biology: Environmental and Sensory Aspects. Editor-in-chief M.A. Ali. *Springer International. 4/yr. DM 170, $61.*

Zoological Science. Editor-in-chief Nobuo Egami. *Zoological Society of Japan/VNU Science Press. 6/yr. Surface DM 411, air DM 434.*

WHEN a journal starts to look jaded, the editors can either change its title and modify the content to increase its appeal, or they can merge with a similar journal, gaining strength from the union. Here is an example of each policy.

La Revue Canadienne de Biologie Expérimentale, founded under a slightly different name in 1942, became *Experimental Biology* last year, reflecting a change in publisher from the Université de Montréal to Springer-Verlag. Volume number sequence has been maintained, so the first volume of *Experimental Biology*, for 1984–1985, is number 43. The four numbers comprising this volume, about 300 pages in all, contain 21 original articles and two review articles. The use of "biology" in the title is inapt, if this volume proves typical, for there are eight papers on mammals (including man), seven on other vertebrates and five on microorganisms; but only two concern invertebrates and only one plants. Of course this doesn't



matter once you know — the *Journal of Experimental Biology*, after all, is solely concerned with animals. Ali writes in an introductory editorial: "While the editors will consider any article in experimental animal and human biology in a wide sense, an attempt will be made to orient the journal towards environmental and sensory aspects of experimental zoology and medicine". This policy should succeed in time, but about half the papers in Vol. 43