BOOK REVIEWS

Biology, Zoology and Genetics: Evolution Model vs. Creation Model by Adell Thompson, (published by University Press of America Inc 4720, Boston Way, Lanham, MD 20706-9990) 1983, pp. 134, Price $18.00.

One of the astonishing events of recent years in biology is the invalidation of Charles Darwin's theory of Origin of Species by Natural Selection. The theory, briefly referred to as Darwinism, sought to account for biological change by a process of evolution, 'that all living forms in the world have arisen from a single source'; that simple forms of life evolved into complex forms, unicellular animals into multicellular forms. These in their turn evolved into animals with backbones; fish evolved into amphibia, amphibia into reptilia, reptiles into birds and mammals, then to primates and finally into man.

Evolution of life over a long period of time is a fact. Palaeontology, molecular biology, anatomy of animals, all these disciplines prove it more or less to a certainty. That evolution is the only process which has been responsible for biological change is not so nearly universally accepted. More important, that natural selection is the only process responsible for the origin of new species is stoutly and emphatically denied.

The denial is based on a closer and more recent examination of Darwin's theory. It is amazing that the theory was mutely accepted over a period of nearly a century; this can be accounted for only by the fact that the alternative, the doctrine of Special Creation, permitted a theological doctrine to enter into an essentially scientific discussion and this was by and large unacceptable to the scientist.

However, recent analysis of Darwin's theory has thrown up many lacunae in it. Foremost is the incompleteness of fossil evidence for evolution. Rather, palaeontology, it is now clear, argues against gradual change so essentially a part of Darwin's theory. Others are, the origin of complex structures like the mammalian eye and the mammalian ear, and the changes associated with the lengthening of the neck of the giraffe and such other structures in animals.

Adell Thompson presents in this little book a comparative account of Evolution and Creation, occasioned by the recent events in several states in USA where the law courts have entered into the controversy of whether the theory of evolution according to Darwin should be taught in schools or the doctrine of special creation should.

To say that creationism is the only alternative to evolution is in effect to make the same mistake twice. Creationism is no alternative to evolution. Based as it is on christianity, it fails to take into account the formulations of other religions, many of which have their own affirmations of the origin of plants, animals and man.

The rational thing is to present the Evolution Model to students with all its flaws and constraints and urge them to examine Darwinism in the light of these alternative scientific theories like that of "punctuated equilibria" have been recently suggested.

The book is a useful text for school students.

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Annual Review of Biochemistry by E. E. Snell, P. D. Boyer, A. Meister, C. C. Richardson, (Annual Reviews Inc; Palo Alto, California 94306, USA) Vol. 52; 1983, pp. 950. Price USA $29.00 elsewhere $32.00.

The volume 52 of the Annual Review of Biochemistry (ARB) for 1983 is in line of this series of most useful collection in biochemistry. Its 950 pages consist of 26 articles and the subject index. In order to keep the publication schedule, the author index, which got delayed, has been omitted. No doubt most scientists who look forward for the ARB would first look at the author index to see whether their names have appeared. In this volume they have to go through the relevant articles to see if their work is reviewed. This indeed may be an advantage that ARB had gained by this omission and the Editors may consider continuing this practice!

The customary prefatory article is written by Luis F. Leloir, Paris-born (1906) biochemist of Argentina. These articles are most enjoyable to read, as they give personal accounts of the life and work of distinguished biochemists. Leloir starts the article by saying

"Biochemistry and I were born and grew about the same time". He describes some of the problems he faced in continuing his work under destabilized political conditions in Argentina and how a private foundation by Campomar and later by National Institute of Health, U.S.A. supported his work. As is usual with these articles the personal glimpses of the times and people are worth reading. It is interesting to note the remarks "all our time was dedicated to research . . . no lectures to give, no committees, no forces pulling us away from research". It is even more instructive to read his views on "Why Research". Leloir came from a family with no tradition of science. He had no musical ear, was mediocre in sports and lacked oratorical abilities and so he could not go for music, sports, politics or law. Having become a physician, he did not like practising medicine. All these "negative abilities" helped him in becoming a biochemist. His formula for success is "great curiosity in understanding natural phenomenon, normal or slightly subnormal capacity for work, average intelligence and excellent capacity for team work—most failed but a few succeeded either due to pure good luck or due to having made the right mistake".

The common feature of the articles is the broad coverage of biochemistry and balancing the weightages without excessive emphasis of molecular biology. Thus there are articles on Biochemistry of sulfur—containing aminoacids, Vitamin D- recent advances, Ribulose-1,5-bisphosphate carboxylase-oxygenase, fatty acid synthesis and its regulation, Gluconeogenesis and related aspects of glycolysis, Glutathione, Proton ATPases; structure and mechanism, Penicillin-binding proteins. Several articles dealt at the macromolecular level are Architecture of prokaryotic ribosomes, DNA methylation and gene activity, Structure and catalysis of enzymes, Dynamics of proteins, elements and function, Cellular oncogenes and retroviruses, The pathway of eukaryotic mRNA formation, The gene structure and replication of influenza virus, Prokaryotic replication systems. One gets the feeling that some subjects are repeatedly covered in these series irrespective of their importance. On the other hand there are some articles which are specialized, yet deservedly given attention: Affinity labelling of purine nucleotide sites in proteins, comparative biochemistry of photosynthetic light harvesting systems, Adenylate cyclase—coupled beta-adrenergic receptors, Lipoprotein metabolism in the macrophage, Leukotrienes, Mechanism of free-energy coupling in active transport, Human plasma proteinase inhibitors, Cell-surface interactions and A molecular description of nerve terminal function. All these articles serve the purpose of providing good framework for advanced lectures in the field in training programmes as well as a ready reference source. There is little doubt that this series is one which every biochemistry laboratory must possess.

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ANNOUNCEMENTS

SIXTH NATIONAL CONGRESS OF AUSTRALIAN INSTITUTE OF PHYSICS

The Sixth National Congress of Physics will be held at Griffith University, Brisbane during 27–31 August 1984.

The Congress activities will include oral presentations, poster sessions and workshops. The oral presentations will be entirely of a general or review nature and will be at a level to provide the non-expert with some understanding of the particular area and current developments. Specialist contributed papers will be presented through the poster sessions. Overseas speakers are being invited to provide review lectures in some of the proposed areas.

The general areas currently proposed for the oral presentations/workshops are as follows: 1. Appropriate Technology, 2. Basics of Theoretical Physics, 3. Physics Education (and Educational Technology), 4. Space Physics and Astronomy, 5. Nuclear Warfare issues.

Further details may be had from: Hon. Secretary, Organising Committee, A.I.P. Sixth National Congress, Physics Department, Queensland Institute of Technology, G.P.O. Box 2434, Brisbane QLD 4001.