BOOK REVIEW

The Web of Life.

Edited by G Padmanaban, M Biswas, MS Shaila and S Vishveshwara.
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Reviewed by:
JAIME EYZAGUIRRE
Laboratory of Biochemistry, Catholic University of Chile,
Santiago, Chile

This book is the first volume of the series "Perspectives in Science and Engineering", edited by SK Biswas, from the Indian Institute of Sciences, and CV Vishveshwara, Indian Institute of Astrophysics, Bangalore, India. As the title indicates, and the editors announce in the Preface, the book –a collection of essays– is "written for a wide audience" and "offers a glimpse into the realms of biology". It covers diverse areas and "traces the all-encompassing web that has life as its nucleus and touches many spheres of human endeavor".

The work starts with a chapter by BS Blumberg (Fox Chase Cancer Center, Philadelphia, USA) entitled "Interaction of Species". In it, using a clear and attractive style, several examples of species interactions are discussed. It focuses particularly on the relation of hepatitis B virus and humans, and how its study has led to "the investigation of the biology, behaviour and even the psychology of humans and other organisms that share the environment of the virus". It is followed by a "Study in Human Population Genetics: The influence of Marriage Patterns on the Gene Pool" by AH Bittles (King's College, London). Here, in a rather long article, the effect of consanguineous marriages on human population genetics is analyzed, and arguments which tend to contradict the generally accepted belief of the deleterious effect of such marriages on the progeny are presented.

PA Parsons ("Evolutionary Change: A Phenomenon of Stressful Environments") deals with the importance of stress (extreme conditions) on evolutionary change. Arguments are given (in a long and at times obscure discussion) that stress is of considerable importance in evolution and because resistance to stress is highly heritable, stress would have a more important role than competition in evolution. AL Mackay (University of London) follows with a short, lucid and intellectually stimulating analysis of the difficulties of applying mathematics to biology: He states that life must be described from atoms, and that from the properties of atoms two conflicting approaches to the understanding of life have emerged, the theistic and the atheistic. In his view, "evolutionary pressures will eventually decide between them".

GA Rodley (The University of Sydney, Australia) presents "The Development of Order in Biology". In a lengthy article, and using a language often difficult to follow, the author underlines the principles and processes giving rise to order in the universe. A central role would be played by "enthalpy-entropy dissipation", leading to the development of chemical evolution, from which biological evolution arises as a natural consequence. G Padmanaban and MS Shaila (Indian Institute of Science, Bangalore) follow with a basic and classical presentation of molecular biology, in an article which will appeal to non-biologists.

Biol Res 31: 73-74 (1998)

The next topic is "Immunology: The Immune System and Beyond" by GR Flannery (La Trobe University, Australia). This chapter is an excellent and modern presentation of the fundamentals of molecular and cellular immunology. Although an excessive use of acronyms tends to confuse the readers, it is a useful source for someone with a background in biology wishing a brief introduction to the subject. A Rattan and SIS Rattan (Aarhus, Denmark) deal with more philosophical topics in their paper "Science and Ideology": The social character of science is discussed, stressing its relation to and dependence on capitalism.

A long but lucid article by NH Ravindranath (Indian Institute of Science, Bangalore) deals with "Biodiversity and Human Welfare", emphasizing the loss of biodiversity, and its consequences for indigenous populations and industrial societies. The last is probably the most thought-provoking article of the book: "Human Genetics: *Liberté, Egalité, Hérédité*" by P Marliere (Paris) and R Mutzel (Konstanz, Germany). According to their view, we have come to the "end of history", and current problems are of global nature. Science attempts to address them. Although science is neutral, it can become "criminal", as many examples (atomic bomb, etc.) can attest. Current and future developments of genetic analysis will lead to a "scientification" of medicine, with the danger (if wrongly used) of producing serious losses of human rights by violating privacy and individuality.

As can be expected in a volume of this nature, the book is very heterogeneous in style, depth and clarity of treatment of the various topics. While some articles focus on philosophical questions of general interests, others tend to be very specialized both in form and contents. Despite some shortcomings, the work will appeal to a wide readership wishing to update or introduce itself to important concepts in modern biology.