

BOOK REVIEW¹

MANKIND'S FUTURE IN THE PACIFIC: The Plenary and Special Lectures of the Thirteenth Pacific Science Congress, August, 1975. Edited by Robert F. Scagel. University of British Columbia Press, Vancouver. 1976. 198 p. \$6.95. — This book is a collection of thirteen papers by a distinguished group of contributors presented at the Thirteenth Pacific Science Congress at the University of British Columbia in 1975. The common theme of the Congress is proclaimed in the book's title, and each of this diverse group of papers is intended to relate to it in one way or another. The description on the back cover proclaims that the papers were "written for presentation to a general audience." Indeed, there is no reason why such an audience should not be able to read these papers and be stimulated thereby. The book is also an excellent one for scientists wishing to reflect broadly on the role of science in human welfare and on humanistic values. The papers consider matters of interest to every thinking person concerned about mankind's future.

The first chapter, Gerard Piel's opening-night address ("The Democracy of the Intellect"), ably sets the theme of the Congress with its "concern for people" and "humanitarian objectives." In Piel's view, the world's recent population explosion is an essentially "benign event" and a temporary phenomenon triggered by the industrial revolution; the resources of the earth and the human mind are sufficient to support a much larger population than we now have if we can but do an adequate job of extending economic development to all the world's countries. Nathan Keyfitz ("Population Problems in the Pacific") likewise focuses on the total numbers of people and on urbanization as well, and he stresses people's "need to participate" through adequate jobs. Leonard Shebeski ("Agricultural Resources—The Limits We Face") focuses on food production and believes that twice the world's present population can be fed by the turn of the century; this can be done by improving technology to more effectively utilize a constant amount of arable land if a higher priority is put on agricultural development. Moises Béhar ("Nutrition and the Future of Mankind") likewise sees no shortage of total resources but believes that "malnutrition is

primarily a manifestation of social injustice" and the way society is organized. Lord Ritchie-Calder ("All Life Is Energy") discusses the role of energy in biological systems, the history of man's energy usage, environmental problems associated with the burning of fossil fuels, the hazards of atomic energy, and new energy sources; his approach is cautiously optimistic, again perceiving no major world shortages of total resources. John Isaacs, in the pithiest (and, for me, the most stimulating) presentation ("Sanity and Other Factors in Aquatic Resource Development"), also views the resources of the human mind and the natural world as virtually unlimited; but he is highly skeptical of the capability of political systems for organizing resource use in a rational manner. Ian McTaggart Cowan ("Biota Pacifica 2000") points out essential differences between man's impact on the fauna of Africa, Europe, and Asia, where man and beast evolved together, and his impact on the biota of the Americas, Australia, New Zealand, and the Pacific Islands, where he imposed "a totally new force upon the existing biotic equation." Cowan catalogs threatened and endangered species and calls for their protection. One point only partially developed: Why should Pacific peoples, especially in developing areas, be concerned with endangered species? Maurice Strong ("Environment and Man's Future in the Pacific") focuses on familiar environmental problems and views the Pacific as the key area for attempts to protect and enhance the world environment. He agrees with the authors of previous chapters in viewing man's economic and social behavior as more crucial for future human welfare than limits imposed by physical resources. William Epstein ("The Environmental Impact of Weapons Use and Testing") deals with what he views as the ultimate pollution of the human environment and summarizes his viewpoint in his subtitle: "Man Is an Endangered Species." Peter Larkin ("Ask Archimedes: Some Reflections on Science Policy") points out problems but provides few helpful suggestions. He is optimistic but "bewildered" and leaves us with little more than the question "Where now?" Frank Fenner ("Options for Man's Future: A Biologist's View") differs from the other authors in considering that "even the present 4 billion human beings are too many for the global resources to support, indefinitely, in reason-

¹ Contribution No. 121 from the University of

Guam Marine Laboratory.

Micronesia 15 (1-2): 335-337. 1979 (June).

able human dignity." However, he is still cautiously optimistic and agrees with the now-familiar theme that the major problems clouding mankind's future are social, political, and economic ones rather than problems resulting from the physical limits of natural resources. Herman Kahn ("Prospects for Mankind") not only sees a natural-resources pie large enough to serve all; he one-ups everybody by seeing an ever-expanding (albeit poorly shared) pie. However, in the long run neither the total amount of resources nor their distribution is a problem, since even a small share of a large pie is sufficient to meet basic human needs. Kahn's apparently ever-expanding mind typically takes the broadest approach of all to man, god, and the universe (and whatever else is worth thinking about). Thor Heyerdahl, in the final chapter ("Primitive Navigation"), provides an interesting change of pace from the other authors by reviewing his controversial ideas about human colonization of Pacific islands. Each of the papers seems to have its own natural flow, and their arrangement gives the book as a whole a natural flow as well.

I was led to ask myself how these papers relate to the common theme, proclaimed by the Congress organizers, of presentations that deal with humanitarian objectives and mankind's future. In fact, most of the papers do seem to relate to these questions in one way or another, with Heyerdahl's paper being the exception. I decided, upon reflection, that the loose assemblage really does have a focus.

After reading this book, one wonders if there were no pessimists at the Congress. If so, they were not given equal time in the invited lectures. Except for Fenner, there were no speakers who did not appear to accept as an article of faith that the earth's natural resources are sufficient to support the world's present population and then some. Faith in the adequacy of these resources and in the ability of technology to exploit them for the good of mankind was the dominant mood. Perhaps this is the approach that is necessary to fit the requirements set forth in the preface, that is, a concern for people and for humanitarian objectives. Presumably, only an optimist can be a humanitarian. In the words of Piel, "...contemporary neo-Malthusians [and apparently other varieties of pessimists] are as untouched by the humane vision of science as they are ignorant of human biology." This notion apparently permeated the other sessions of the Congress as well (at least those which did not deal with strictly scientific concerns, such as the ecology of coral reefs). Sessions which generally

fell under the theme of science and society were dominated by speakers espousing the modern version of the white man's burden (i.e., the obligation for developed countries to devote \times percentage of their gross national product to development in the lesser developed countries) or by speakers with a twentieth-century version of the noble-savage syndrome. It was thus a breath of fresh air when several Pacific islanders rose at one session and instructed speakers from the developed countries not to be so "patronizing." Their particular viewpoint is not represented in this collection of invited lectures. Furthermore, the viewpoints of all the authors are shaped by the fact that they are amongst the scientific elite, but then who else would we expect to be invited to speak?

Besides the repeated calls for more industrialization and more technological fixes for the developing countries, it is interesting to consider what was *not* said at the Congress (at least not in the invited lectures). Hence, nobody said, "Small is beautiful," and nobody issued calls for "appropriate technology," although Isaacs and Kahn did refer to the need for a "common-sense approach" to the problems of mankind. Also left unconsidered was the question of whether the transfer of technology and money from the developed to the developing world can take place without new ideas and value systems replacing traditional cultural values, much less whether such possible cultural change would be a good or bad thing.

In discussions of such cosmic questions as mankind's future in the Pacific and the role of science in human welfare, it might be expected that one's approach is shaped more by a particular sense of values, an underlying viewpoint, than by any "scientific" approach. The application of scientific values to humanistic concerns is more a matter of faith than a truly objective approach growing out of scientific methodology and training. It was perhaps this realization that led one old-timer at the meetings to remark that the Pacific Science Congress was becoming less and less "scientific" with each new gathering. Hence, this book is primarily about scientists' system of values rather than science per se. It represents not so much a presentation of information as a statement of faith, but then how else could one presume to deal with the theme of mankind's future? In any event, this book is the Congress organizers' reply to another comment overheard at the Congress: "Where is the concern for people in all these resolutions which deal with endangered species, altered ecosystems, etc.?"

Besides the discussion of the major theme, these papers touch on a number of familiar subthemes. These include the view of technology as a double-edged sword, with problems as well as benefits for mankind; economic development as a prerequisite for the demographic transition; the validity or nonvalidity of Malthusian doctrine; urbanization of human populations; centralization of power in political systems, abetted by the nature of technological developments; social injustice; the concept of an individual's sense of identity coming primarily from meaningful work; weapons testing in the Pacific; species extinctions and the need for the ecosystem approach in the prevention thereof; various kinds of pollution; the nature of the scientific enterprise; scientific input to public policy. Particularly interesting are Isaacs' comments on graduate education as overspecialization, Fenner's perception of the need for "integrative scholarship" as called for by Stephen Boyden, and Kahn's view of graduate training as leading to "educated incapacity." Finally, there is the consideration of "futures research" itself as this relates to the central theme of the Congress and the title of the book.

On the other hand, while the book has the word "Pacific" in its title and the Congress had that word as part of its name, there is very little in this volume that deals exclusively with the Pacific. Any consideration as broad as "mankind's future" is more likely to deal with worldwide concerns than with more narrowly defined areas, of course, so perhaps "mankind's future" and "in the Pacific" are partially exclusive terms. In fact, Cowan's paper is the only one aside from Heyerdahl's that deals exclusively with things Pacific, though a couple of the other papers have the word in their titles. However, Isaacs did lead off with a reference to "the vast reaches of the Pacific Ocean," vast reaches which seemed to be important in shaping his presentation. This was a Pacific Science Congress primarily in terms of the attendees rather than the topics considered in the plenary and special lectures, with things Pacific being confined to the specialized meeting sessions. Moreover, as in past Congresses, even the attendees did not represent the entire Pacific basin, with Latin Americans being the notable absentees.

Perhaps the most ironic aspect of this book is the Heyerdahl chapter and the response that was evoked to the oral presentation in Vancouver. Heyerdahl is the only contributor who deals

primarily with scientific questions as opposed to the relationship of science to society or the implications of science for society. His paper, while presented in terms oriented to the layman, is nevertheless concerned with technical points more readily understood by anthropologists than by the public. However, it was Heyerdahl's presentation which evoked the most public attention at the Congress and received the most newspaper coverage. No doubt this was due in part to his general familiarity to the public; few of the other contributors have done anything which captured the public imagination as much as the expeditions of the "Kon Tiki" and the "Ra." However, the newspaper coverage was also generated in part by the protests evoked from anthropologists whose professional views are in opposition to those of Heyerdahl and who felt that they were not given a suitable forum to express an opposing viewpoint. The opponents objected to the fact that Heyerdahl flew into Vancouver, presented his invited lecture, and departed with what some viewed as undue haste. Had he been voicing more accepted scientific dogma, this would probably have made no difference. As it was, his presentation constituted the stuff that makes good newspaper headlines. One wonders why it is that a scientific controversy, whose technical points of conflict are unlikely to be understood by the majority of the public, should get more attention than scientists talking about humanitarian concerns of their profession and the implications for human welfare. Thoughtful scientists talking about such things are obviously not as newsworthy as the kind of conflict generated by Heyerdahl and his critics and do not make good headlines.

Overall, this is a book well worth reading. All of the papers are well written, and the oral presentations given at the Congress were for the most part well delivered and stimulating. Seeing the presentations in written form gives the reader a chance to reflect over what was said at the Congress in a leisurely fashion. There is no dead wood in this book, as is all too common in many collections of papers, but perhaps this is what we should expect of plenary and special lectures. Our expectations are not disappointed.

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