

Book Reviews

Ecological Investigation in the Arctic

It seems unlikely that there ever before has been such a sophisticated, comprehensive description and interpretation of the environment of a relatively small, undeveloped, isolated area as that presented in **Environment of the Cape Thompson Region, Alaska** (Norman J. Wilimovsky and John N. Wolfe, Eds. U.S. Atomic Energy Commission, Washington, D.C., 1966. Available as PNE-481 from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 1266 pp., illus., maps. \$9.25). The book is the report of a large group of investigators who studied an area in northwestern Alaska that had been selected as the site of a possible experimental excavation of a harbor with the use of nuclear explosives. As John S. Kelly states in the foreword, "Because the project site was in an environment for which there was no prior nuclear test experience and little scientific knowledge of the environment, bioenvironmental investigations in addition to the usual public-safety program were approved to allow adequate assessment of the effect of the proposed project and to assure that it could be conducted safely." The project was designated "Chariot" and was a part of the Plowshare Program of study of the peaceful uses of nuclear explosives. The investigations were made largely between 1959 and 1961. It was decided in 1962 to suspend Project Chariot without the detonation of any explosives, and of course many predictions would have been tested and many questions would have been answered if the explosions had taken place and the environment subsequently studied again. However, the information collected during the lifetime of the project stands as a monument to what can be done when a careful, comprehensive, integrated study is made of a selected site.

The work was guided by a small committee which, in addition to appropriate representation from the Atomic Energy Commission, included

outstanding scientists from a wide range of disciplines. Furthermore, the committee was delegated appropriate authority to do its job. The preface of the book notes that almost 100 scientists participated in the environmental investigations. The results are incorporated in 41 chapters dealing with the physical characteristics and bioenvironment of the land, the coast, and the Chukchi Sea, the population, and radioactivity in the area. Altogether 71 authors are represented in the book. To anyone with any experience in the administration of an integrated research program and in the publication of the results of such a program it is obvious that a tremendous amount of effort was required in planning, coordination, field logistics, report preparation, and eventual publication. The product reflects that effort and must be a source of pride and satisfaction to those who participated.

The technical editing of the book, which must have been a staggering responsibility, is superb. Nevertheless, a few critical comments may be helpful if any similar volumes are attempted. The discussion of previous scientific explorations (chapter 1) is much too limited. Its author apparently sets out to discuss all previous "scientific activities," but in fact restricts the discussion very largely to earlier biological investigations. Nothing is included about the scientific work of P. H. Ray in northern Alaska during the First Polar Year, for example, nor is any mention made of the explorations of W. J. Peters and F. C. Schrader of the Geological Survey in 1901, those of E. de K. Leffingwell (largely in the Canning River area), or those of P. S. Smith and J. B. Mertie, Jr., as recorded in *U.S. Geological Survey Bulletin 815*, or even of the scientific knowledge gained in the exploration for oil of Naval Petroleum Reserve No. 4 that went on from 1944 through 1953. This limitation does not significantly reduce the

value of the book, but a more comprehensive outline of earlier work would have been an improvement.

There may be some confusion in referring to the illustrations in the text, because they are numbered separately for each chapter and no list of them is included in the book. Moreover, the quality of the folded plates could have been greatly improved. For example, on plate 1 some stream and lake areas appear in solid black for no apparent reason, and a number of symbols are included whose meanings are not apparent. The cartographic quality of the soils map, plate 4, is not as high as that of the other folded illustrations. Presumably a higher level of cartographic quality was judged not to be worth the additional cost. Finally, the binding is not up to the highest standards. For example, the rather thick sheaf of folded maps stuck in an envelope on the inside of the back cover soon warps the shape of the whole book.

These faults are generally trifling and do not detract, except in appearance, from a fine product achieved under the direction of a competent and dedicated committee working with a large number of projects in a variety of disciplines. Furthermore, the whole Chariot idea was a touchy one scientifically and politically, and that such an outstanding product was achieved so promptly under these circumstances is noteworthy indeed.

Environment of the Cape Thompson Region, Alaska could well become a model for coordinated investigations of the environments of other areas. It is much more comprehensive than is needed for many environmental studies. Nevertheless, decisions regarding the feasibility of many projects in the fields of conservation, the development of natural resources, and the uses of terrain for the purposes of man would have a solid foundation in fact if based upon comparable studies.

JOHN C. REED

*Arctic Institute of North America,
Washington, D. C.*

Man and His Future

Science traditionally has not been concerned with human values, and scientists have been judged on their objectivity. This, of course, is not to say that a particular scientist may not be both a scientist and a human being