BOOK REVIEWS

EDITORS' NOTE—We apologize for printing errors which appeared in the review of the book Geomorphology in Deserts, page vi in the March–April 1974 issue of SSSA Proceedings. Through an oversight the galley proofs were not sent to the reviewer for checking prior to publication. The correct review is given below in its entirety.

Geomorphology in Deserts

In the preface the authors state that their aim “. . . is to examine the nature of landforms, soils and geomorphological processes in deserts.” Both authors are Lecturers in Geography at University College, London.

The book consists of four main parts. Subdivisions are keyed to these four parts. For example, the first two levels of organization in Part 3 are denoted 3.1 and 3.1.1. Figures and tables are also denoted according to the four parts but in a different way: Par. 4.3.2.5. The authors then explain what they mean by “Below the A horizon in many desert soils there are redder horizons known as cambic that are enriched in clay.” The statement is incorrect since most of these redder horizons enriched in clay are argillic horizons.

In some instances the authors omit comment necessary for correct interpretation of data presented. For example, in a discussion of radiocarbon dates on page 105, the authors note “. . . a more confused pattern, which could only be explained if deposition in each horizon was supposed to vary in age . . . ” but do not cite evidence in the same paper indicating that age variation would indeed be expected in the horizons concerned.

In commenting on a sequence of soil development, pages 111–112, the authors do not mention that the cited sequence is in highly calcareous parent materials. Significant differences would be found in a sequence of soils formed in calcareous parent materials.

Part 3, The Fluvial Landscape in Deserts, considers drainage systems, mountains and plains, pediment systems, and playas. Regrettably there is little discussion of stratigraphic and chronologic aspects of these vast areas. As the authors note in their preface, “. . . a consequence of our emphasis on present conditions is that we have found little space for much of the work on regional chronologies of landform development in deserts.”

Part 4, listed as “Aeolian Bedforms” in the Contents, is given as “Aeolian Geomorphology in Deserts” in the text. Part 4 presents a comprehensive discussion of winds; wind abrasion, deflation and erosion phenomena; sand movement by wind; two-dimensional characteristics of simple aeolian bedforms; dune patterns; and ergs.

This book is a useful survey of a substantial amount of the geomorphic and pedologic work in deserts. The reference list is comprehensive, and readers may wish to consult it for detailed consideration of the cited work. The book is succinctly written and highly readable. It is recommended to soil scientists, geologists and others who may be interested in desert geomorphology.

Leland H. Gile, Soil Scientist, Soil Conservation Service, USDA, and Adjunct Professor of Agronomy, Texas Tech University, Lubbock, Texas.

Second International Conference on Permafrost—North American Contribution

During July 1973 the Second International Conference on Permafrost was held in Yakutsk, U.S.S.R. The organizing committee from the United States and Canada joined in publishing their reports presented during the Congress. The volume is divided into seven sessions (sections) with the lead paper of each session consisting primarily of a review of developments in subject matter during the 1963–73 period. Session 1 considers the thermal aspects of permafrost formation and evolution. These contributions discuss theoretical aspects of heat transfer in permafrost and related phenomena. Session 2 reviews permafrost distribution in North America. In addition to information on the general distribution of permafrost, there are other papers of interest to the soil scientist—particularly those concerning the periglacial problem, land use planning in permafrost areas and the geochemistry of the origin, composition and structure of frozen ground and ground ice. One paper in this group deals with soil development in Antarctica. Most of this session, however, concerns coastal permafrost in North America. Sessions 3 and 4 deal with the subject of physics, physical chemistry and mechanics of frozen ground. Of the many informative papers in this group, topics relating to ionic mobility in permafrost, heat capacity of frozen soils, soil freezing in relation to pore water pressure and frost-heave mechanisms are of special interest. Session 5 takes up the subject of groundwater in permafrost areas. Session 6 concerns surveying and predicting permafrost conditions. Techniques range from satellite imagery to a seismic and electromagnetic devices. Session 7 consists of a large group of papers dealing with construction problems in permafrost areas. Individual papers cover general construction, pipelines, sewage treatment, materials and other related subjects.

This is a splendid collection of papers which will serve a useful purpose for many years and it is highly recommended to the soil scientist. As an addendum 179 Soviet contributions to the permafrost conference were published separately in a set of 7 volumes by the Permafrost Institute in Yakutsk, U.S.S.R.—J. C. F. Tedrow, Rutgers University, New Brunswick, N.J.

Physical Aspects of Soil Water and Salts in Ecosystems

The 48 papers collected in this volume were given in August 1971, in Rehovot, Israel, at a symposium on soil-water physics and technology. The symposium was sponsored jointly by the International Soil Science Society and the Soil Science Society of Israel. All papers were voluntary contributions. Predictably, they ranged widely from basic theoretical and philosophical discussions to empirical studies of local problems. The book ends up a somewhat mixed bag with many readers interested in a few papers, but probably few interested in all of them. It is unfortunate that this may cause some excellent papers to be overlooked. Publication in regular journals would have made individual papers available in standard volumes or as reprints, and only those slow in submitting papers would have been penalized by a 2-year publication delay. It's not possible to review the book as a whole, nor is it practical to review each of the 48 papers individually. But some points warrant discussion.

In the opening paper, Swartzendruber and Hilletter concisely review the physics and mathematics of infiltration and point out where gaps exist in our knowledge. Specifically, they call attention to the often ignored question of the characteristic scale of the system. In the preface, Gardner and Marshall call attention to an apparent lack of balance between theory and practice, not