Trinity test in Alamagordo, and at the Greenhouse series at Eniwetok, the same intimate style is used even though the author was not present on these occasions. She does not say she was there, but the writing style might lead an uncritical reader to assume that the author is reporting a personal experience.

The Uranium People has many amusing passages. It is a spirited personal account of Libby's experiences and of her impressions of some of the famous and not so famous people with whom she became involved. It will probably be most interesting to those who "were there" and who can draw on their own memories to fill the gaps.

DAVID B. HALL

400 Circle Drive,
Santa Fe, New Mexico 87501

Correlations and Processes

Solar-Terrestrial Influences on Weather and Climate. Proceedings of a symposium, Columbus, Ohio, Aug. 1978. BILLY M. MCCORMAC and THOMAS A. SELIGA, Eds. Reidel, Boston, 1979 (distributor, Kluwer Boston, Hingham, Mass.). xiv, 346 pp., illus. $24.

Sun, Weather, and Climate. JOHN R. HERMAN and RICHARD A. GOLDBERG. National Aeronautics and Space Administration, Washington, D.C., 1978 (available from the Superintendent of Documents, Washington, D.C.). xii, 360 pp., illus. Paper, $4.50. NASA SP-426.

Like it or not, the study of possible effects of solar variations on terrestrial weather and climate is going to be with us for many years. Those professing to have found such effects have come to exceed the critical number necessary to maintain activity in the field, and books such as those under review here will be appearing with increasing frequency. The two books are of quite distinct types.

The volume edited by McCormac and Seliga evolved from a symposium. In many respects it is typical of the genre, containing review papers, results of recent research, and projections of individual programs into the future. Those active in the field should consider as "must" reading the paper by A. B. Pittock, "Solar cycles and the weather: Successful experiments in autosuggestion?," at least if they have not read the same author's longer critique (*Rev. Geophys. Space Phys.* **16**, 400 [1978]), and they owe it to any researchers they inveigle into the field to make them too read one or the other of these papers.

The book includes no record of debate or discussion following individual papers (though some changes have been made in the text in consequence of debate and discussion). However, an important chapter of "workshop conclusions" has been provided. In it are to be found a set of broad summaries that do not espouse any particular set of data or any particular claim and yet are sufficiently incisive to provide a firm base for those who wish to proceed with further studies. A report on correlation studies by J. Murray Mitchell, Jr., is a particularly valuable part of this chapter for future practitioners. Had its advice been taken in the past, the literature of the subject would be far less littered with garbage than it now is. The chapter also contains two resolutions adopted at the meeting for promulgation to the appropriate international scientific bodies. The participants in the meeting have thus come to act as a pressure group for the furtherance of the type of work they pursue and the continued gathering of certain types of data they hope to use.

The book by Herman and Goldberg is of a kind new in this field and must be welcomed if for that reason alone. It includes, as one might expect, a wide-ranging review of the claims and counterclaims of correlation that constitute the bulk of the relevant literature, and it attempts to come to grips with the physical processes that must be operative if the correlations are physically meaningful. But, more than that, it starts with a compendium of relevant information drawn from solar physics, aeronomy, and meteorology and presents the whole in a cohesive fashion. It serves, then, as a basic textbook for the composite field, valuable both to those whose background lies in one of the subfields and to those who will be entering the field in one jump.

Having no precedent to follow, the authors have had to face the difficult job of selection and emphasis, of finding the appropriate scope and depth. While I and others might disagree with some of the choices made, we would no doubt disagree in different ways. (There is, of course, the typical array of first-printing errors: for example, a mass density is given in units of kg^{-3} on p. 41, and the value cited for "the magnetic permeability of empty space" on p. 42 omits a necessary factor of π.)

The one serious shortcoming I find in the book is what I view as a relatively uncritical approach to claims of correlation. The authors may justify this by their own stated position (explained in the preface) as agnostics, and by their frequent (invariable?) use of the term "correlation" in a purely mathematical sense without the implication of physical meaning. Yet they use the same term when the physical significance of a correlation is beyond doubt, become apologists ("A critical period of 1930–1950 is thus indicated" [p. 133]) when the sign of a mathematical correlation becomes reversed, and on other occasions treat as serious business correlations whose relevance is questionable at the very least. This is dangerous stuff to place in the hands of newcomers to the field, who will be unaware of the travesties of the past, and a chapter delineating the traps that lie around and the means for avoiding them should have been included. In the absence of such a chapter, the papers singled out above (plus, perhaps, a recent article by R. Shapiro, *J. Atmos. Sci.* **36**, 1105 [1979]) should be considered to be a vital adjunct to this book.

All that having been said, I must repeat that the book by Herman and Goldberg is valuable and welcome. All who wish to pursue work in the field will wish to have it readily available, at least until some other authors face up to the rather formidable task of improving upon it.

C. O. HINES

Department of Physics,
University of Toronto,
Toronto, Ontario M5S 1A7, Canada

Books Received

Amiloride and Epithelial Sodium Transport. Proceedings of a symposium, Valley Forge, Pa., Apr. 1978. Alan W. Cuthbert, George M. Fanelli, Jr., and Alexander Scriabine, Eds. Urban & Schwarzenberg, Baltimore, 1979. xii, 184 pp., illus. $18.50.

The Andresen Standard Solar Heating Design Manual. Wabash Valley Solar Energy Products Company, Terre Haute, Ind., 1979. Variously paged. Paper, $20.

Coronary Heart Disease. Papers from a symposium, Frankfurt, Feb. 1978. Martin Kaltenbach, Paul Lichtlen, Raphael Balcon, and Wulf-Dirk Bussmann, Eds. Georg Thieme, Stuttgart, and PSG Publishing Company, Littleton, Mass., 1978. xvi, 346 pp., illus. $42.

Current Topics in Microbiology and Immunology. W. Arber and 12 others, Eds. Springer-Verlag, New York, 1978. Vol. 82. iv, 140 pp., illus. $32.50. Vol. 83. iv, 158 pp., illus. $34. Vol. 84. ii, 122 pp., illus. $29.

Dangerous Properties of Industrial Materials. N. Irving Sax. Van Nostrand Reinhold, New York, ed. 5, 1979. xii, 1118 pp., illus. $54.50.

Functions of Glutathione in Liver and Kidney. Papers from a meeting, Schloss Reisensburg, German, July 1978. H. Sies and A. Wendel, Eds. Springer-Verlag, New York, 1978. xiv, 214 pp., illus. $32.50. Proceedings in Life Sciences.

(Continued on page 1432)