drinking the fermented corn beverage *batári*) for this famous Mexican society. Brown provides a good description of the use, folk classification, and cultural importance of the hallucinogenic *Brugmansia* (*Datura*) as found among the Aguaruna Jívaro of the Upper Mayo River Valley of Peru, verifying again the strong relationship between cultural importance and minute perceptual discriminations within closely related botanical species. Messer outlines the major features of herbal medicine in Mitla, Oaxaca, Mexico, and shows that herbal remedies, though their traditional importance is changing significantly under the pressure of modern medicine, will continue to represent an important aspect of folk healing so long as there are illnesses recalcitrant to the pharmacopoeia of the modern physician.

The papers on plant resource utilization outline precisely what can be learned by closely examining the knowledge and practices of resource management of nonliterate peoples. Kunstadter's description of swidden agriculture among the Lua' of northwestern Thailand demonstrates convincingly that behavior of these people reflects a highly sophisticated biological and ecological understanding of their environment, one that is, sadly, in danger of extinction. The work of Kunstadter and his collaborators should go far in providing empirically justified suggestions for the permanent, sustained use of tropical forest resources in Southeast Asia and elsewhere by determining how and why aboriginal societies in the tropics have been able to form a viable relationship with their forest environment.

Carneiro's short paper on the classification and use of tropical forest trees among the Kuikuru of Brazil's Upper Xingú River basin describes some intriguing experiments in ethnobotany as well as proposes—in typical Carneiro style—a rough-hewn formula for estimating the number of tree species for some known area of tropical forest. Finally, Dole's detailed description of the preparation and consumption of manioc among the same Indian group will go far toward eliminating many popular misconceptions about the human use of this important plant in South America.

The book as a whole helps place in perspective some of the issues of ethnobotany today. Ethnobotany will continue to follow Jones's lead and provide us with clear accounts of the relations among nonliterate peoples' knowledge and use of plants. It remains to be seen if modern societies can put this information to use in developing a new and fuller understanding of their responsibilities for the maintenance of the world's diverse plant resources.

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Personal Glimpses

The Uranium People. LEONA MARSHALL LIBBY. Crane Russak, New York, and Scribner, New York, 1979. x, 342 pp. + plates. $15.95.

Leona Woods Marshall Libby has written a book entitled *The Uranium People*. After almost 40 years (since the start of her saga) it is not clear what particular void in recorded history she wants to fill. This reviewer will guess that she has succumbed to a temptation in common with many people who reach that uncertain age of about 60 years: the compulsion to reminisce. The book is best described as the memoirs of a young graduate who found herself in the company of brilliant scientists in a major applied science program that is still regarded by some as an example of the technical marvels that can be achieved with dedication and money.

The title of the book is not accurate. The author is writing about the plutonium project and the people with whom she herself was involved. It should be noted that the Manhattan Project had three independent programs in order to have a high probability of succeeding in its objective of making a nuclear explosive weapon. One program, under A. H. Compton, was the plutonium project, which the author joined in 1942 and, in her own way, chronicles. The other two, which are not included in this book, were the uranium projects aimed at separating the fissile isotope uranium-235 from the more abundant isotope uranium-238 by diffusion and by electromagnetic techniques. Perhaps a personalized account of these other two very interesting activities will yet be written.

Scenes from the early days at Los Alamos. (Top) The lodge; (bottom) the road. [Los Alamos Scientific Laboratory; reproduced in *The Uranium People*]

The book is written in an anecdotal style with many repetitions and a disregard for continuity either in subject matter or in chronology. The author states her objective of trying to tell "what was human and interesting about the people involved." One wonders what she found interesting about cleaning fingernails or picking teeth with the aid of plucked hair. The emphasis of the book being on people, her description of events is in terms of the people involved. The book should not be read as a history of the uranium or plutonium projects; many important activities were going on that are not covered in it.

The first chapter is devoted almost exclusively to Enrico Fermi. That he also figures prominently in the succeeding chapters comes as no surprise, since the author states at the outset that Fermi was perhaps the most influential person in her life. The character sketches of people with whom the author worked are scattered throughout the book almost at random. Certainly all the Nobel laureates she has known are mentioned whether or not they figured prominently in the project. The character sketches are intermingled with a gleeful account of the author's activities; the subtitle might be "Oh what fun we had!"

With the breezy, intimate style adopted by the author, it is not always evident when the descriptions of events are firsthand accounts and when they are derived from others. In some cases the eyewitnesses supplying the accounts are identified; in others it is not clear whose memory is being tapped. For two particular events, Libby is specific in insisting that her memory is the most reliable; the first is the activation of the original chain-reacting pile on 2 December 1942, and the second is the discovery of massive fission-product poisoning of the first Hanford production reactor. In describing the events at Los Alamos, at the

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.

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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.

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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.

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