ly helpful to the nonspecialist. The topics in part 1 include stochastic processes, independence and dependence, and three main results—martingale convergence theorem, stationarity theorem, and infinite decomposability theorem. Queries, including a number of unsolved problems, challenge the reader. Part 2 discusses stochastic structures, index spaces, abstract sample spaces, extensions (of sample spaces), and probability spaces. There are queries in this part as well.

The final article, "Random integrals of differential equations" by J. Kampé de Fériet, is in two parts, together with a short introduction. The first part includes statistical mechanics of holonomic systems, stochastic differential equations, transition probability and diffusion equations, and semigroups and infinitely divisible laws. The second has sections on statistical theory of turbulence, Burgers model, abstract Cauchy problem, and spatial homogeneity. This part appealed to me and served to emphasize what the author pointed out in the introduction—that, although the mathematical theory had its motivation in physics, the problems are becoming more and more abstract every day.

On simply reading the articles, I find that I cannot completely agree that the series was an outstanding success, although I am unable, of course, to judge how successful the actual lectures were. Many of the authors seem to have an exaggerated idea of how much a nonspecialist knows (or should know), and I certainly found out how little I know about some areas of mathematics. The authors fulfilled the purpose of the series in delineating a substantial research area and describing it broadly and comprehensively, but this sometimes led to a wealth of detail almost impossible to assimilate. I think a better approach would have been to select one particular problem in an area which illustrated the many ideas needed to tackle it. (This is what some of the authors did.)

In spite of this (perhaps unjustified) criticism, I must congratulate the cosponsors on the publication of the lectures. I feel sure that, at some later date when my inferiority complex is less acute, I shall find it a pleasure to return to many of the topics discussed in this series.

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Space Science and Technology

Space Radio Science. Progress in Radio Science Series. vol. 8. Fourteenth General Assembly of URSI (Tokyo, Japan), September 1963. Ken-Ichi Maeda and Samuel Silver, Eds. Elsevier, New York, 1965. viii + 235 pp. Illus. $13.50.

This is the eighth and final volume of a series containing the scientific presentations at the Fourteenth General Assembly of the International Scientific Radio Union held in September 1963 at Tokyo, Japan. This volume contains five papers presented at the session on space radio research and five papers on satellite communications systems presented before Commission VII (Radio Electronics). The advertising on the dust jacket states somewhat extravagantly that this volume includes discussion of all major aspects of space science and technology, whereas in fact the coverage is very incomplete and variable in the detail that is included.

Two major contributions constitute well over half the book. The first, by R. E. Bourdeau, J. H. Chapman, and K. Maeda, is on ionospheric research by means of rockets and satellites. This includes a concise description of the ionosphere and instruments for making ionospheric measurements in satellites and rockets. Although necessarily brief, it covers a broad span of subject matter and has many references. The second major contribution, by H. F. Weaver and S. Silver, is on the subject of planetary research in the millimeter and infrared regions of the spectrum. This paper, which also has many references, reviews the capabilities for planetary investigations by infrared and microwave observations. It also summarizes the results of measurements on the moon, Venus, and Jupiter.

The remaining contributions include a very brief introductory statement by S. Silver, a survey of the tests with the first active communications satellites (primarily Telstar) by E. F. O'Neil, and a brief discussion of data processing and its relation to communications from deep-space experiments by S. W. Golomb. There is a review of satellite communication devices by J. R. Pierce, which also includes the problems of components in active satellites. L. Jaffe presents a brief commentary on, or sequel to, Pierce's paper. There is only an abstract of H. A. Rosen's contribution on altitude, orbit, and antenna control for spinning satellites. J. C. Simon presents a brief, 3-page discussion, in French, on switched antenna arrays in satellites as a substitute for mechanical stabilization of directive antennas. Finally, W. E. Morrow, Jr., discusses long-range communications by orbiting dipole belts, including the West Ford experiment.

This volume will be of interest to a very small audience. Taken together with the seven other volumes of the series, it provides, at a rather high price, an account of the scientific presentations at the assembly.

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Descriptive Plant Ecology

Forest and Savanna. An introduction to tropical plant ecology. Brian Hopkins. Heinemann, London, 1965. xii + 100 pp. Illus. 18s.

Part of the problem in writing an ecology textbook is that the examples chosen cannot be equally relevant in all parts of the world. A highly regional work will have such a limited potential sale that publishers will not handle it; they demand a wider market. The present volume, which partially satisfies the needs of undergraduate students in tropical Africa, gives the impression of having been written for Nigeria, with subsequent substitution of "West Africa" wherever possible. For example, some first-class work and an excellent bibliography (which is truly West African) are not called to the attention of students by the omission of reference to certain chapters (on vegetation, pedology, geology, and related topics) in *Agriculture and Land Use in Ghana* (1962), edited by J. B. Wills, which was also produced with the student in mind.

Plant ecology is presented in Hopkins' book in an uncomplicated manner. Semantic arguments that so bedevil adult ecologists are not allowed to complicate the presentation to academic adolescents—so the chapter entitled "The scope of ecology" is only two pages in length. The West African environment is described in terms of its