a venture in "brainstorming." It amply illustrated the obstacles to a scientific treatment of consciousness, and its most important results were suggestions and hypotheses rather than solutions. In the present "state of the art," however, the fulfillment of a heuristic function is the very best outcome that could be expected.

Having read the book, I look at the problem of conscious experience in ways that are new and interesting to me. Although the following statements are not to be construed as representing the consensus of the conference (since the members reached no explicit consensus), they may illustrate the thought-provoking character of the volume. For example, it now seems to me (i) that conscious processes are slow and likely to be mediated in part by small cells and fibers; (ii) that such processes are probably not more complex than unconscious functional systems and may well be less complex; (iii) that consciousness must be a kind of supersystem, one that "knows that it knows," to use MacKay's phrase; (iv) that the function of consciousness is likely to be in acquiring new nervous connections, that is, in speeding up and enlarging the scope of learning. A list of the same kind constructed by another reader would surely differ in its particulars, but I think it likely that he would find the new notions he came away with provocative, even though they may lack a solid foundation.

One must keep in mind the difficulties the conference faced. There is no general agreement on what "consciousness" means, what it entails, what behaviors it is essential for, whether or not it has biological survival value, whether it is one or many different processes, and so forth. Inner experiences traditionally fall within the domain of psychology, yet in this century psychology has been trying to divorce itself from its historical underpinnings and to become a science like physics. It has therefore been proceeding rapidly away from introspection, taking its data solely from observable behavior and eschewing mentalistic constructs as meaningless and valueless. Yet, perhaps because of increased self-confidence, there is a growing body of opinion, even within experimental psychology, that there should be no territory immune to scientific investigation, not even the private data of the mind. The distinction between public and private fades when we consider the abundant evidence from both verbal and nonverbal communication that no inner experience of an individual is unique. If experimental psychology is to enter this hitherto tabooed realm, however, it will probably have to be helped over the threshold by philosophy and physiology. Philosophy can help by clearly explicating the kind of logic that applies to investigations of ourselves. And physiology can help, through the tremendous prestige it enjoys among psychologists, by actively searching for neural correlates of conscious processes; if such correlates are found, psychology will be encouraged to recover its lost subject matter. The conference broke new ground along both these lines.

Women's Place in the Russian Work Force

It has long been axiomatic in the study of labor force trends that the proportion of women among the gainfully employed declines in the course of industrialization. The uniqueness of the Soviet case lies in the fact that, contrary to the experience of previously industralized countries, the participation of women continues at a high rate—indeed, higher in 1959 than in 1939—despite the declining importance of the agricultural sector as a source of employment. Norton T. Dodge's study of this phenomenon, **Women in the Soviet Economy: Their Role in Economic, Scientific, and Technical Development** (Johns Hopkins Press, Baltimore, 1966. 351 pp. $10), was underwritten by the Office of Economic and Manpower Studies of the National Science Foundation and in addition was "prepared under the supervision of the Department of Economics, University of Maryland." It therefore probably documents the situation in greater detail than would otherwise have been possible.

Consistent, however, with the "hard line" currently being pursued in the "manpower field," the book virtually denies that the uniqueness of the Russian experience has anything to do with the social structure of the Soviet Union, except insofar as Marxist ideology has been useful in persuading Russian women to undergo the necessary training and to remain in the labor force throughout the critical child-bearing years. Rather, it is Dodge's essential thesis that the sustained high rate of female participation in the labor force is largely a function of the shortage of males in the population that has resulted from some 40 years of civil strife, famine, political purges, and world wars.

Among semiprofessionals and professionals, of whom half were women in 1959, the effect of this demographic imbalance was compounded, according to Dodge, by the fact that during the war years only women were available for most specialized secondary and higher education. But since the majority of these women—about 60 percent in 1959—were medical personnel, teachers, librarians, and the like, there will undoubtedly be those who will attribute at least some significance to the classic combination of relatively high social status and low wages prevailing in these occupations until recently. By the same token, the recent decline in this proportion may well be attributed to increasing salaries in some of these occupations, a hypothesis Dodge does not even entertain.

Instead, he contends that the recent and impending decline in the proportion of professional and semiprofessional women in the Soviet labor force is a reflection of the increase in the number of men available and of a tacit recognition on the part of Soviet planners that women are, in the last analysis, less productive than men in view of an inherent conflict between the obligations of "family and work." Yet the fact remains that this second conclusion is *ad hoc* and largely after the fact. Moreover, most of the evidence adduced in support of it—the underrepresentation of Russian women in administrative positions, their failure to achieve eminence on an appreciable scale, and their lack of creativity—consists of sociological and psychological considerations which as such are not indices of productivity in the rigorous economic sense in which Dodge clearly intends that the term be understood.

In addition, Dodge's conviction that Soviet planners are now proceeding on the assumption that women have been shown to be less productive than men is an inference from the outcome of their planning rather than from any knowledge of their intentions. To be sure, the Soviet economy is a planned economy, and the supply of labor is no less subject to planning than is any

other factor of production. But the assumption that every outcome bears a one-to-one correspondence to what is intended not only denies the relevance of market conditions but precludes the possibility of unanticipated consequences in the affairs of men (and women) generally. The conclusions of this book, then, are not the conclusions of social science, but reflect a sense of *Realpolitik* that pervades the official view of all things Soviet, and the "manpower field" generally.

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Theoretical Statistics

The Statistical Analysis of Series of Events (Methuen, London; Wiley, New York, 1966. 293 pp., illus. $7.75) is an excellent book. The authors, D. R. Cox and P. A. W. Lewis, provide an account of important techniques for the analysis of series of point events occurring haphazardly in space or time. The book is unique in providing many real-life examples together with copious data which are analyzed by different techniques in several sections of the book. The subject matter treated is somewhat limited in that essentially only stationary series of point events occurring along a one-dimensional axis are considered. However, this has allowed the authors to study in depth questions peculiar to this class of stochastic processes.

The book presents a great deal of penetrating discussion concerning the analysis of selected examples. It would be useful for the reader to have a knowledge of probability theory at the level of Feller's *Introduction to Probability Theory and Its Applications* (1957). However, much information may be absorbed with less technical background.

Chapter 2 presents an excellent summary of the statistical properties of the Poisson process. New techniques for analyzing trends in data are given in chapter 3, and failure data of air-conditioning equipment presented in a 1963 article by F. Proschan are analyzed. Unfortunately, no comparison is made with Proschan's own analysis, even though there seems to be some disagreement. Chapter 4 is devoted to stationary point processes, with special attention to stationary renewal processes. Here the reader must be careful to note the difference between the usual renewal process and a stationary renewal process. A more formal definition of a stationary renewal process would have been helpful. Results of Kuzretsov and Stratonovich, J. A. McFadden, and others are also summarized. In chapter 5 the authors use covariances or correlation, as well as the usual spectral analysis, for time series and make an interesting analysis of computer failure data.

The authors return to the analysis of stationary renewal processes in chapter 6. A clear and useful discussion of distribution-free tests of goodness-of-fit is given. Tests for Poisson processes which appear to be most useful against stationary alternatives are presented, as well as tests for renewal processes. The subject of renewal processes for distributions with monotone hazard rate is also discussed. It is incorrectly asserted that a monotone nondecreasing hazard corresponds to a convex log survivor function. (It should be concave instead of convex.) Also the t is omitted from the expression $M(t) = t/E(X)$, at the top of page 142. In general, however, errors in the book are few and of a minor nature.

Generalizations of renewal processes are given in chapter 7. One of the more interesting models is that of a branching renewal process and its application to computer failure data. A two-state semi-Markov process is used to fit traffic data. In chapter 8, on the superposition of renewal processes, the authors' investigation of the properties of the component processes in an observed process of superpositions is especially novel and interesting. Reference to the recent work of the Russians Grigelionis and Ososkov should be added to the references cited.

Techniques for comparing two Poisson processes are discussed in chapter 9. Extensive sets of data are given in appendix 1. The exercises in appendix 3 complement topics presented in the various sections. A computer program for some of the methods used is available from one of the authors.

In conclusion, this book can be highly recommended to statisticians and those in the field of operations research as a very readable and stimulating discussion of techniques of analyzing series of events. It will most likely be widely used and referenced.

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Archeological Dating

Chronologies in Old World Archaeology (University of Chicago Press, Chicago, 1965. 569 pp., illus. $7.50) represents an attempt by 14 American archeologists, under the direction of R. W. Ehrich, to produce absolute and relative chronological systems for much of the Old World. The organization and presentation of the papers reflect a conscious bias in favor of the Ancient East, that tract of land occupying quite varied environmental regions from the Nile eastward to Iran. East central, northern, and western Europe and parts of the Aegean world on most reckonings clearly played a less eminent role in the development of culture and civilization in post-Pleistocene times. The same could not be said, however, of the great eastern provinces of the Old World, the Indian subcontinent, and particularly China, areas which, with recent advances in archeological expertise, including substantial quantities of radiocarbon dates, may well become a focus of new attention from the Western world.

Radiocarbon of course is the reason for a change in the title of this book, from a second edition of *Relative Chronologies in Old World Archaeology* to the more precise but in some ways less satisfactory *Chronologies*, dependent in areas where well-stratified sites are rare upon the establishment of magical absolute ages for sites and cultures through the radiocarbon dating method. Space precludes a detailed examination of specific areas where certain adjustments in the chronological tables beloved of most archeologists might be suggested, but two main points are, I think, worth making here.

It is a well-known fact that the half-life of carbon-14 was early estimated by Libby as 5570 ± 30 years, with certain laboratories employing values of 5568 ± 30 or 5760 ± 40. New calculations of this half-life have produced a value of 5730 ± 40 years, and most of the contributors to *Chronologies* have adopted the new value. Yet the Fifth Radiocarbon Dating Conference in 1962 decided to postpone the changeover from the old to the new until further studies were made, at which time all dates could be republished. This decision was reaffirmed at a conference in Washington in 1965, and has been adhered to in most syntheses that have appeared recently, including that for an area not treated