

Book Reviews

The Processes of Maintaining Order

Law in Culture and Society. A Wenner-Gren international conference, Gloggnitz, Austria, Aug. 1966. LAURA NADER, Ed. Aldine, Chicago, 1969. x, 454 pp., illus. \$10.75.

It might seem at first blush that there are no extraordinary difficulties in defining "law." Courts are of it, attorneys are at it, and legislatures make it. However, when all the things that seem to be somehow related to or part of law from societies all over the world are considered, difficulties multiply. Do laws have to be written? If so, most of human society must be said not to have law. If law is not written, how does it differ from other kinds of customs, beliefs, and practices? Must there be a formal "court"? Students of law have been worrying these issues for many decades, but in *Law in Culture and Society* the Gordian knot is cut. We are told that at the conference where the papers that comprise this book were read there was a "marked disinclination—indeed, positive refusal—to become involved in attempts to define and delimit the focal term, law."

But we are not left wholly adrift on the conceptual seas. Most of the papers here, and most of the recent work in this field by anthropologists and their sympathizers, concern the various forms of "dispute settlement" employed by human societies, and P. H. Gulliver provides serviceable reference for that phrase. The great strength of the study of dispute settlement has been its emphasis on untangling the social and cultural processes involved through the use of detailed case studies, and this volume is notable for the fine case studies and stimulating analyses presented in a number of its papers. E. A. Hoebel, who founded the case-study approach to dispute settlement three decades ago, is well represented here with a study of Keresan Pueblo law which shows, *pace* Ruth Benedict, that the Pueblo is ruled by a "totalitarian oligarchy" which uses "repressive au-

thority to maintain order and conformity."

P. H. Gulliver substantially advances the method and practice of social and cultural research based on case studies with his richly detailed study of disputes among the Ndendeuli of southern Tanzania. He holds that the proper study of dispute settlement involves three stages: the history of relations between the disputants before the dispute; the dispute itself; and the social consequences of the settlement. He correctly notes that too much emphasis on "law" can lead to examining only the dispute-settlement efforts themselves—this seems to be what happened in Max Gluckman's vitally important studies of Barotse judicial process—and prevents our understanding the full import of both the dispute and its settlement. Gulliver's study is a milestone in the progress of using a case-history approach to studying social behavior and should be required reading for all those who are interested in the processes by which societies actually operate and maintain some kind of order in the face of man's quarrelsomeness.

A notable weakness in the study of dispute settlement and other aspects of "law" in non-Western societies has been a tendency to withhold attention from the role of the individual. James L. Gibbs makes an impressive argument for reversing this tendency, and his own formulations concerning psychological aspects of dispute settlement among the Kpelle of Liberia show some of the sort of profit to be gained by attending more to this aspect of reality. Leopold Pospisil argues rather radically but persuasively that the role an individual can play in legal and structural change has been grossly underestimated and that "the role of the techniques of food production, of technology in general, and of the rules of residence may have been overstated in the anthropological literature." His own data from the New Guinea Kapauku lend substantial weight

to his position, and Isaac Schapera's essay on "chief-made law" among the Tswana of Botswana provides further stimulus for the close study of individuals in attempts to understand how rulings and laws come to be what they are.

This book is clearly abristle with excellent case studies—it is worth noting that some of them deal with Western society—but its high point of drama comes in an exchange between Max Gluckman and Paul Bohannan on theoretical issues. In the editor's brief introduction we are told that in a summation of the conference (which does not appear in the book) it was concluded "that there was no Bohannan-Gluckman controversy." It would have been useful to know what this might have meant, since the few lines of explanation provided do not justify the statement. From reading the two papers, it is obvious that there are important issues on which the two anthropologists are thoroughly in disagreement. The first of these concerns the concepts to be used in describing folk-systems of law (and, by extension, everything else). The second, and equally fundamental, contended issue is *what* is to be described and how it is to be analyzed.

Gluckman's position, which is clearly stated and compellingly presented, holds that although we must do our utmost to render native categories of thought and principles of action in all their uniqueness and nuance, having explained what each is and to what it refers we can use either legal terms (such as "owner," "tort," and "right") or other words from English to express the categories and principles. Having done so, we can then examine the relationships between the categories and principles on the one hand, and social, cultural, and economic conditions on the other. This examination will involve comparison—between different societies and the same society at different periods in its history—in order to point out relationships and determine their necessity.

In short, Gluckman wants to use operationally defined terms to elucidate the workings of the legal system and to establish its relationships with other aspects of life. Bohannan takes a more internal interest and wants to know how the legal system is perceived and understood by those who participate in it. He believes that this end can best be achieved by using the vernacular terms employed by the actors themselves as the main vehicle for descrip-

tion because the translation of these terms into English, especially English legal concepts, inevitably distorts through implying whatever range of meaning the English words carry in their usual, nonethnographic use. Bohannon is fully alive to the difficulties his view involves, and he believes that within the next ten years the problems of translation of basic concepts will be eased, but not wholly solved, through the development of an "independent and logical language," perhaps of the sort used with computers. This language will be part of the apparatus needed to make useful comparisons among different folk-systems as they are experienced by those who live with them.

It is obvious that both Gluckman and Bohannon are seeking worthy ends. It is less obvious why Bohannon cannot use the same sort of empirically based and strictly limited terms Gluckman

does. Bohannon appears to find ordinary operational definition inadequate as the basis for his system of description and analysis, and despite his invoking of Fortran and, elsewhere, some of the methods of modern linguists, it is not clear how he proposes to proceed without employing the same basic definitional procedure Gluckman and other scientists do.

Taken together the papers in this book make a noteworthy assembly. One or two are not of first quality, and a synthetic introduction or conclusion would have added greatly to the virtue of the volume, as would a more careful proofreading of the error-strewn text. These are cavils, however, and this book is a stimulating and important one.

MARC J. SWARTZ

*Department of Anthropology,
University of California, San Diego*

A Philosophical Analysis of Einstein's Theories

Axiomatization of the Theory of Relativity. HANS REICHENBACH. Translated from the German edition (Braunschweig, 1965) and edited by Maria Reichenbach. University of California Press, Berkeley, 1969. xxii, 210 pp., illus. \$7.95.

The logical and epistemological foundations of Einstein's theories of relativity have continued to interest scientists and philosophers for over three-score years. This book is a lucid translation of a classic work in the philosophy of science, which was first published in 1924. It attempts a philosophical analysis of those theories by presenting them in carefully wrought axiomatic form.

The author precedes his articulation of an axiom system for the special theory of relativity with a terse discussion touching on the role of different types of definitions in axiomatizations, the relation of the axioms to experience, and the epistemological foundations of the concept of time. In the first part of the book Reichenbach presents an axiom system for the "light geometry" of special relativity, from which he obtains the Lorentz transformation equations relating different inertial frames of reference. He then introduces the "matter axioms," which specify the behavior of rigid rods and clocks, which he takes to represent the metrical behavior of material objects. The axiomatization of the general theory of relativity, which is the sub-

ject of the second part of the book, is constructed on the basis of the axioms and definitions of the special theory by requiring that the latter hold in infinitesimally small space-time regions, and by also adding an axiom concerning accelerated clocks and rods together with six new definitions.

The book is a most useful contribution for students of the philosophy of space and time, and also for those who are interested in the history of logical empiricist philosophy. Much of the book is presupposed in Reichenbach's influential monograph *The Philosophy of Space and Time*, first published in 1928 and in English translation in 1957, which utilizes his above-mentioned axiomatization in the construction of the space-time metric, but which does not re-present the details of that axiomatization. The book under review also contains a carefully delineated account of Reichenbach's explication of time in terms of causal chains.

Though the book is a most worthwhile contribution to the literature, the axiomatization it presents has been criticized several times. Not long after the German edition appeared, the physicist H. Weyl pointed out that the light geometry axioms were not sufficiently restrictive. More specifically, the light geometry axioms do not eliminate a non-Lorentzian "similarity transformation" without an appeal to

a hypothesis about material objects, say a rigid rod or a clock. Reichenbach appears to have accepted this criticism in his later work, where he admits that unless one is to appeal to the behavior of light signals at infinity, a move which Reichenbach found objectionable on physical grounds, one must have recourse to an assumption about material objects in order to exclude the similarity transformation:

$$x_i = \frac{x'_i}{x'^1_1 + x'^2_2 + x'^3_3 - x'^4_4}$$

(Here i ranges from 1 to 4, x'_1, x'_2, x'_3 refer to space dimensions, and x'_4 to the time dimension multiplied by the velocity of light.) Accordingly the presentation of the theory of relativity given in the *Axiomatization* should be read in the light of the author's later, modified accounts.

Reichenbach's analysis also contains a number of philosophical assumptions which are currently considered somewhat dubious. The discussion of the axiomatic method, and the defense of it as the "only method that will reveal the logical structure of the theory with perfect clarity" and allow for a clear distinction between the "empirical and logical components of assertions," are questionable in the light of serious difficulties pointed out by W. V. Quine and H. Putnam in distinguishing between analytic and synthetic assertions. Further, Reichenbach's belief that his inquiry "starts with elementary facts as axioms" and his claim that "all axioms of our presentation have been chosen in such a way that they can be derived from experiments by means of *pre-relativistic* optics and mechanics" are likely not to be accepted by contemporary philosophers. Partly this is so because of the demise, in the philosophy of science, of any simple distinction between theoretical and observational language which would permit the expression of such "elementary facts," and partly because pre- and post-relativistic optics and mechanics are now thought to be quite inconsistent with one another. Accordingly, one would suspect either that Reichenbach's premise concerning the *derivability* of his axiomatization of relativity from pre-relativistically characterized experiments is wrong, which is my own view, or that the axiomatization plus sentences describing its experimental base involve a self-contradiction.

The inter-theoretical inconsistency between pre- and post-relativistic optics