continuity. The reader will miss a treatment leading up to numerical prediction of motion systems. Although this is regrettable, particularly in view of V. Bjerknes' early formulation of the initial value problem in meteorology, it should be remembered that the manuscript was completed in 1948 before any substantial development took place in this most modern branch of meteorology.

Part IV, which is written mainly by J. Bjerknes and T. Bergeron, is called "Climatological and synoptic models." It is more than this. It is an extraordinarily cogent presentation of atmospheric structures, characterized by great simplicity and a wealth of information, and it is well connected with the foregoing theoretical parts. This, indeed, is pleasant reading.

Part V, which deals with weather forecasting, may be criticized on many scores, but, again, it should be remembered that the manuscript was completed in 1948, before the practices developed during World War II could be properly evaluated and the winnowing process completed. The presentation is often formalistic and shows little connection with the treatment in the theoretical parts. One may question the wisdom of including, in a treatise of this kind, descriptions of meteorological codes and operational practices, the life of which is not comparable with that of a basic text. In reading the historical notes one becomes impressed with the difficulties in the way of avoiding bias.

At the end, one may well ask: what use can the book be put to? Will it be used in instruction at the university level? On the whole, it is a book for researchers and instructors rather than for students, and, as such, it will do much to raise the level of learning. One may hope that it will be often revised and kept up to date. Like all true monuments, it should enjoy a long life.

The meteorological profession will be grateful to the authors for the immense work that has gone into the writing and to the American Meteorological Society and the Carnegie Institution of Washington for the excellent manner in which the book has been produced.

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## Social Sciences

**The Structure of a Moral Code.** A philosophical analysis of ethical discourse applied to the ethics of the Navaho Indians. John Ladd. Harvard University Press, Cambridge, Mass., 1957. 474 pp. $8.

The empirical part of this book undertakes, primarily through the interviewing of selected wise men of a Navajo community, to elicit and exhibit the moral code of that particular nonliterate society. But John Ladd, a philosopher by trade and training, has not merely done extracurricular service in an alien discipline. He has also endeavored to frame a general theory and methodology for descriptive ethics, the latter being distinguished, on either side, from overt moral teaching and from philosophic analysis of moral utterances. The method he has outlined and employed is presumed by him to be available and utilizable by any anthropologist who may wish to discover and reconstruct the moral code of any group whatsoever.

The moral code of a group is imbedded in the general ethical system of that group, while the ethical system also includes the "ethical conceptions and argumentation" to which the group subscribes. To disinter a moral code is to do a bit of social science, in the sense that a proper reconstruction of the code will, ideally, permit both explanation and prediction of the sorts of moral statements likely to be uttered by members of the group over whom the code holds. The reconstruction will, however, not permit either prediction or explanation of the *conduct* of those individuals, nor will observation of their conduct apparently help in determining their moral code.

The author is quite resolute in excluding matters of behavior from consideration, though his reasons for doing so, if understandable on the practical level (he spent about 5 weeks "in the field"), are theoretically questionable. Most of us, after all, would regard, as the most decisive evidence of a man's moral beliefs, not what he says but the way in which he makes choices. And it must seem perverse or arbitrary when someone proposes that "evidence (such as actual behavior) will be considered irrelevant."

So far as Ladd's technique of reconstruction is concerned, it seems chiefly to consist in finding major premises for arguments which natively occur as enthymemes—that is, where prescriptive conclusions are directly drawn from factual premises. Thus, "don't steal, because it will get you in trouble!" can be validated as a piece of moral reasoning (and can be effective as a piece of moral dissuasion) only in cases where the parties who utter and heed it are prepared to adhere to the missing prescriptive premise, "don't do anything that will get you in trouble!" When this same major premise is found to be required by a significantly large number of moral arguments, one is likely to have a "basic prescription" in one's hands, and accordingly the logical wherewithal to deduce (hence, predict) specific prescriptions—provided that one is also aware of what sorts of acts are regarded as trouble-producing. Different groups will, of course, wield different basic prescriptions, and wield them in different ways, but a given group may be depended on to wield its basic prescriptions in a manner sufficiently consistent to allow some general characterization of that group's ethical slant.

The ethical slant of the Navajos, according to the thesis advanced here, is both "teleological" and "egoistic." That is, an action which is morally relevant must (i) produce (or avert) some "end-state-of-affairs," and (ii) the latter must in some sense conduce to the personal welfare of the individual agent. Accordingly, the typical Navajo may be expected to be unmoved by other kinds of moral reasons—for example, that an act is forbidden from on high, or will conduce to the social good, or has been sanctioned by ancestral practice. One verifies these theses by asking leading questions and seeing whether or not the anticipated responses are forthcoming. Within the limits he sets himself (namely, to restrict himself exclusively to verbal evidence), I should say that Ladd's reconstruction is reasonably well verified. He is a good interviewer and, despite a formidable linguistic barrier, manages to get his informant to think about certain moral situations which, though almost classical in our ethical experience, are clearly novel to the Navajo.

The book suffers from that kind of running methodological patter which lengthy books in the social sciences so often display. And Ladd's epitomization of the Navajo code as "a Hobbesian ethical system, modified by an Epicurian psychology and a Spinozistic sociology" sounds just the sort of crashing chord that will lift the spirits of some men and set other mens' teeth on edge.

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**The Foundations of Science and the Concepts of Psychology and Psychoanalysis.** vol. I of *Minnesota Studies in the Philosophy of Science.* Herbert Feigl and Michael Scrivens, Eds. University of Minnesota Press, Minneapolis, 1956. 346 pp. $5.

In the tradition of the close relationship that has prevailed for the past few decades between the philosophy of science and the science of psychology, the Minnesota Center for the Philosophy of Science has published a volume containing a dozen methodological papers (several of which have been published elsewhere) that are directed at the behavioral sciences. The combined papers, especially those of the members of the center (Feigl, Meehl, Sellars, and Scriven), do not offer any methodological

panacea for psychology, nor for that matter do they offer any consistent point of view. At best they represent an exceedingly pragmatic approach to the philosophy of science, with emphasis on the meaning of concepts in terms of their locus in the "nomological net."

The 12 papers fall into three categories. One set contains the more or less traditional philosophy of science paper dedicated to analysis of the epistemological basis of modern science. Feigl argues convincingly for a sharp and clear distinction between analytic and synthetic statements. Carnap proposes an empirical criterion of factual meaningfulness and distinguishes between theoretical concepts and dispositional concepts. This latter point is very timely, considering the confusion that has been generated by psychologists who fail to make such a distinction. Meehl and Sellars, although they deny adherence to any emergentist formulation, argue that such formulations are logically defensible: "As we see it, the question whether the world is to be conceived along emergentist lines is a scientific question which cannot be settled on a priori grounds." Sellars, in a lengthy article, attacks the sense-datum theories of knowledge and finally leaves the reader at a crossroads with no signposts.

The second group of papers is dedicated to psychoanalysis. First, a vigorous and often, if not always, successful attack on psychoanalysis is undertaken by *l'enfant terrible* of American psychology, B. F. Skinner. Scriven replies in kind by directing his scorn at Skinner's radical behaviorism while half-heartedly defending psychoanalysis. Scriven notes, and I agree, that "Skinner's position on almost every issue admits of two interpretations—one of them exciting, controversial and practically indefensible; the other moderately interesting, rather widely accepted, and very plausible." Scriven agrees with others who have argued that Skinner, despite his denials, has really proposed a theory. Possessing a methodological distaste for theories, Skinner finds himself in the enviable position of not having to defend his own theory. In spite of his methodological naivete, or perhaps as a result of it, Skinner remains one of the most original and creative modern psychologists. Two other papers, one concerned with an operational reformulation of psychoanalysis and the other denying the possibility of a logical reduction of psychoanalytic theory to physicalistic terms, conclude the section on psychoanalysis. It is a pity that so many contemporary philosophers and scientists feel compelled to analyze, interpret, and reformulate Freudian theory. Freudian theory is in much greater need of reliable empirical data than of theoretical refinement.

Perhaps the most constructive portion of the book deals with specific psychological topics. Cronbach and Meehl clarify the important and intimate reciprocal influence that can exist between psychological tests and psychological theory. Meehl demonstrates convincingly how an actuarial characterization of a person is superior to one formed on the basis of clinical judgment. Buck critically examines the logical status of general behavior systems theory and finds it wanting in all important aspects. And, finally, Scriven advocates a position that will be unpopular with tough-minded psychologists—namely, that there are some basic differences between the natural sciences and the social or behavioral sciences that prevent the latter from ever achieving the theoretical achievements of the former.

All in all, the book is an interesting one. It certainly justifies the fascinating sociological experiment known as the Minnesota Center for the Philosophy of Science. Those who read it will await with interest the publication of succeeding volumes.

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**Perspectives in Personality Theory.** Henry P. David and Helmut von Bracken. Basic Books, New York, 1957. 435 pp. $6.50.

In June 1954, when the 14th International Congress of Psychology convened in Montreal, the program committee was guided by a conviction that "one of the great challenges to the International Union is not merely to bring psychologists of different nations together, but specifically to break down the parochialism of American psychology." This symposium volume, growing out of the congress, reflects this conviction.

Reviews of German, Swiss, British, French, and Italian psychologies of personality are supplied by eminent men from each country. Separate chapters are written by European psychologists whose names are associated with particular concepts or methods little known in the United States: phenomenology; existential psychology; stratification of the person; will; and character. Because these chapters and American rejoinders are presented in large perspective by excellent people, the book becomes an authoritative, world-wide picture of today's science of personality. Selective bibliographies after each chapter and a well-organized annotated 324-title bibliography in the appendix will rightly guide the reader whose interest is whetted into exploring unfamiliar literatures. Had the 14th congress accomplished nothing save generating this volume, its convening would have been worth while.

Strikingly, the psychology of each nation reflects that nation's culture. As McClelland points out: "One could make a case for the French insistence on absolute clarity and rationality of constructs, the Anglo-Saxon willingness to adopt a construct or hypothesis tentatively, however imperfect, so long as it leads to further research, the German preference for polarities, 'feeling with' another person and for hierarchical models." Are these national trends visible in other sciences?

To what extent is American psychology culture-bound? McClelland goes on to suggest that "American psychologists have had a strong interest in overt adjustment to the environment . . . because they were in a new country which demanded major adjustments from immigrants" and for other historical reasons. Also, the Strong Vocational Interest Blank, validated on an American sample, shows scientists in general to be "turned outward toward the world and away from their inner thoughts and experiences." Insofar as American psychology reflects this trend, adopting an anti-intraceptive definition of what is "scientific," remaining mechanistic, focusing on part-problems, ignoring the more unalterable aspects of man and refusing to examine what seem to be unpalatable sides of human nature, it clearly deserves to be called "ethnocentric."

After reading this book, one feels, however, that the pro-European contributors want to extend such an accusation unduly, to include the touchstone of empirical validity by which ideas are evaluated in American science. They appear to stretch the ideal of international tolerance to cover a demand that all ideas be assigned equal worth in the intellectual market place. I am not sure whether they therein display sophistication or sentiment. If some Continental thinkers are willing to honor untested ideas, must we feel that "the provincialism of American psychology" is revealed when Americans refuse to credit these ideas until their advocates show how they stand up to empirical test?

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**Theories of Personality.** Calvin S. Hall and Gardner Lindzey. Wiley, New York; Chapman and Hall, London, 1957. 572 pp. $6.50.

Hall and Lindzey have rendered a valuable service to teachers and students by collecting, under one cover, a description of 12 significant theories of personality. Four chapters are devoted to Freudian theory and several of its derivatives and deviants, like Jung, Adler, Sullivan, and Murray. Lewin, Allport, Rogers, and