Book Reviews

Psychology's New Frontier

Computer Simulation of Personality. Silvan S. Tomkins and Samuel Messick, Ed. Wiley, New York, 1963. xiv + 325 pp. $5.

Psychology was among the first of the social sciences to recognize the importance of computers and to utilize this tool to reduce the computational drudgery which had become a standard aspect of psychological investigations. Now our horizons are again being extended, and researchers are asking whether the computer can be used to simulate the human personality. To help define this problem, and to give it operational meaning, a conference on computer simulation of personality was jointly sponsored by Princeton University and the Educational Testing Service in June 1962. The aims of the conference were to accelerate the dissemination of information about computer simulation and to achieve some evaluation of its potential for the field of personality.

Computer Simulation of Personality consists of the papers read at that conference and some of the discussion which followed. It is divided into four parts—Introduction and General Problems; Psychoanalytic Theory; Cognition and Affect; and Résumé. The tone of the book is set by the lead article in which Silvan S. Tomkins states that in his view computer simulation of personality, the *humanomatom*, is a language and a method by which a theory of personality can be expressed. The extent to which computer simulation of personality has already been implemented is truly amazing. Reitman describes the simulation of problem solving behavior, and Colby the simulation of neurotic processes. Loehlin introduces us to *Aldous* of the brave new world, a computer program that recognizes situations, reacts emotionally to them, and expresses these feelings in coded action or report. Uhr describes his pattern recognition programs and gives evidence to support his claim that these programs have "artificial intelligence" and can learn percepts. Abelson seems to take for granted that computers can be used to simulate problem solving behavior and concept formation. He takes as his task the simulation of "hot" cognition—that is, the simulation of cognitive processes involving affect-laden objects as opposed to the "cold cognition" of problem solving.

These psychologists were not engaged in idle speculation or science fiction fantasy; they were reporting on work that is actually under way. Obviously other psychologists are going to have to become more familiar with the use of computers in the simulation of personality, and this book will be a bench mark for the start of such studies. This being the case, one can only express regret that the papers were more indicative than informative. There is a bibliography, which helps some, but it is a mixture of general references on personality, cybernetics, programming techniques, and simulation studies; unfortunately it is not annotated. An index would enable the reader to locate similar ideas as expressed by different speakers and discussants. No doubt these niceties were omitted in order to increase the speed of publication. The book itself was prepared by photo offset from typed manuscripts, rather than typeset, for the lines are not right justified. But these are mild criticisms of the format. With respect to the content, the proper note of caution was expressed by Colby (p. 178): "The First Law of the Instrument states that if you give a boy a hammer, he suddenly finds that everything needs pounding. The computer program may be our current hammer, but it must be tried. One cannot decide from purely arm chair considerations whether or not it will be of any value."

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Psychology

Creativity and Psychological Health: Origins of Personal Vitality and Creative Freedom. Frank Barron. Van Nostrand, Princeton, N.J., 1963. xii + 292 pp. Illus. $6.50.

This is an account of the research carried on by one psychologist (sometimes by himself, more often with colleagues) and of the development of his thinking on some basic questions of human existence, since he was a college senior in 1941. Recently there have been a number of volumes of collected essays of scientists, usually with some connecting materials added. This volume, too, includes reprints of technical papers previously published, although this is not always immediately apparent, and there is more than usual of what might be called intellectual narrative. The interweaving of unaltered technical papers, however, probably accounts for the shifts in attitude that are noticeable. Sometimes Barron appears to be speaking to any educated layman, sometimes to colleagues, and sometimes to students. His concerns, however, go beyond the piling up of technical studies in an orderly sequence. They go to the meaning of life, to freedom, and to the problem of Good and Evil (caps his). His Catholic orientation, made explicit in the preface, is subtly pervasive, particularly in the chapters on religious belief.

The account of his research progression takes no note of the work of others besides his own colleagues (except to mention those who constructed various instruments which Barron and his colleagues adopted) and cannot be read for any critical summary or overview of what is being done in research on any of the topics that he considers. But there is plenty of meat in the book. Barron's research has covered personal soundness in university graduate students, predicting and measuring the outcome of psychotherapy, relationships between ego-strength and a variety of other variables, resolution of crises in religious belief, simplicity and complexity in personality, independence of judgment, and finally a series of studies around originality and creativity and brief comments on consciousness-expanding drugs. It is all interesting research; it is well conceived and well executed. And, to the good fortune of all of us, it is continuing.

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