
The prodigious research and writing of Raymond B. Cattell has often been overlooked among academic psychologists. This is unfortunate, since much of what Cattell has written in recent years has broken new ground in the scientific and theoretical analysis of human behaviour. Cattell's enormous productivity, enshrined in 600 publications (including some 50 scholarly books), along with his construction of several multivariate measures (designed to quantify abilities, normal and abnormal personality traits, dynamic motivation factors, and situationally sensitive emotional states), is clearly evident in this most recent of his books. In the introduction of the book, the General Editor for the Centennial Psychology Series, Charles Spielberger, stated that,

Professor Cattell has ... introduced technological innovations and made many fundamental contributions to psychometric theory through his pioneering work on factor analysis and the empirical foundations of psychological measurement. His highly sophisticated approach to the construction of psychological scales has produced numerous tests and inventories that provide basic yardsticks for assessing the most significant dimensions of behavior. The extensive citations of his work in the scientific literature rank him with Freud, Piaget, and Eysenck in terms of his influence on contemporary psychological research.

Cattell is the winner of numerous awards for his scientific contributions to psychology, including the Darwin Fellowship, the New York Academy of Sciences Wenner-Gren prize, election to the British Psychological Society's register of distinguished foreign psychologists, and more recently, his selection by the pertinent divisions of the A.P.A. and A.E.R.A. for the 1982 ETS Award for Distinguished Service to Measurement.

Cattell's latest book represents a triumph of intellectual and creative endeavour. The book is essential reading for Cattelian students—there are 574 references in his name. In Part 1, in eleven chapters, Cattell discusses the need for a taxonomy (akin to the periodic table in chemistry), important for any science of psychology. Some of the topics include: verification of source traits across cultures and human developmental stages; dynamic motivational factors; states, ambient situations and the modulation model; behaviour genetics in personality; group dynamics and the cultural framework of personality; structured learning theory; and applied social psychology and ethics. Part 2 contains 10 chapters which expand on his recent developments in theory and research. Among the
topics covered are: newer attributes of the behavioural equation taking into account the classification of situations; spectrad analysis; dynamic calculus of decision, conflict, integration and ego action; intersection of cultural anthropology, political science, economics and social psychology; and Adjustment Process Analysis and Systems Theory. Cattell's final chapter in Part 2 includes suggestions for further research. Part 3 comprises a number of his papers especially selected to elucidate some of his most important formulations.

Criticism that Cattell ignores situational stimuli ignores the fact that he has incorporated estimation of situation variables in his Covariation Chart (1946), in his Basic Data Relations Matrix of the 1960s, and more recently in his abstract econetic theory. In this latest book, Cattell includes several abstruse mathematical equations designed to quantify behavioural tendencies under various situations. The level of abstraction of these formulae rivals that demonstrated by necessity in the hard sciences of mathematics and physics. However, development of substantive laws in psychology, similarly necessitates the training of psychologists who have mastered the rigorous scientific discipline to push the frontiers of psychological knowledge ahead. A possible criticism, however, is that Cattell's elaborate specification equations cannot realistically be quantified and tested at the present time. Cattell proposes an ambitious, mathematically defined, model of structured personality-learning theory. His efforts are commendable, and clearly very creative, but the lack of adequate empirical underpinning is perhaps his achilles tendon. Objections to Hullian theory seem applicable to Cattell also. Undoubtedly though, Cattell's latest book will provide countless hypotheses and sub-hypotheses for future research in psychology. Readers unfamiliar with Cattellian terminology (some of which, such as the labelling of several of his personality factors, is unnecessarily made difficult by the coinage of neologistic labels) should read Cattell's Personality and Mood by Questionnaire (1973) before attempting to assimilate his latest work. This should be followed by his Scientific Analysis of Personality and Motivation (with Kline, 1977), as well as his monumental text Personality and Learning Theory (1979/1980).

The human brain is perhaps the most complex structure in the whole universe. Is it really possible to understand its complex psychological processes and products from the viewpoint of arm-chair theories? Cattell has at least attempted to base his research endeavours on multivariate analyses of objectively quantified measurements, under experimental control. That he has not completely achieved his aims is an indication of the complexity of the field. No other scientist, in the history of psychology, has done any better than Cattell. While it is true that Cattell's theories require much further empirical analysis (especially in regard to some of his more recent formulations), the enormity of the task needs to be confronted directly. Cattell has certainly shown the way for those who have sufficient academic curiosity and ability to explore further the issues he has raised.

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