Book Reviews

Behavioral Development

Change and Continuity in Infancy. JEROME KAGAN, with the collaboration of Robert B. McCall, N. D. Reppucci, Judith Jordan, Janet Levine, and Cheryl Minton. Wiley, New York, 1971. xvi, 298 pp., illus. $10.95.

During the first half of this century, psychologists charted the course of infant sensorimotor development and established that such development generally does not predict eventual intellectual status. With the aid of modern technologies for monitoring behavior and internal states, current workers on infant research are taking a second and closer look at early cognition and related processes. This monograph reports a major longitudinal study of attention, cognition, emotion, and temperament in 180 infants at the ages of 4, 8, 13, and 27 months. In addition to presenting a variety of new findings, this work is a bold and imaginative search for psychological structures which organize the infant's rapidly developing behavioral repertoire.

The study was guided by two major propositions. The first posits a developmental sequence of processes which govern the deployment of attention during infancy. Initially, stimulus contrast and movement are the primary determinants of sustained attention to external events. At the age of two or three months, recognition schemas have developed to the point where a moderate discrepancy between schema and event evokes sustained attention. By about the end of the first year, the infant is capable of more active kinds of information processing, including generation of "hypotheses" for relating events to schemas. At this time, amount of sustained attention signifies roughly the number of hypotheses evoked by an event. The authors present empirical findings in support of this three-phase sequence, including a U-shaped function relating chronological age to attention time.

A second guiding principle asserts that individual differences in psychological dispositions are formed early in life but the behaviors that signify them are subject to developmental changes. The psychologist's tasks are not only to identify important underlying dispositions and to operationalize their behavioral signs, but also to discover which signs are age-specific and to which dispositions they belong at each age period. For example, the infant's smile at four months (elicited under certain conditions) is seen as release of tension accompanying successful efforts to assimilate an event to a schema. At the age of two years, however, this same capacity is better indexed by a reflective style of information processing elicited by more challenging contexts and tasks.

This is not to say that relationships between certain responses and underlying processes do not hold throughout infancy. Indeed, evidence is presented suggesting that vocalization, attention time, cardiac deceleration, and smiling typically signify excitement, information processing, surprise, and successful assimilation, respectively.

Differences in response patterning and development associated with the infant's sex and socioeconomic background also are considered. Excitement in response to an interesting event occurred more consistently in girls than in boys. Relationships between socioeconomic status and certain infant behaviors occurred most clearly in girls and at later age periods. The authors exercise proper caution when dealing with social class as an explanatory concept, and interpretations of these as well as other findings are enhanced by data on maternal behavior in the home.

Thus the findings are extensive and of theoretical importance. However, the study also had its share of disappointments, as few results were powerful enough to explain large portions of the variance. Measurement error took its inevitable toll, but the problem was deeper than that. Once again it is important to keep in mind the two guiding propositions, that (i) basic processes determining behavioral responses are sequentially ordered in development and (ii) individual differences in dispositions are maintained over time despite developmental changes in their specific behavioral signs. Since these two propositions arise from alternative models of human development, it seems doubtful that both could have received strong support from the same data. To illustrate, consider the hypothetical case where a developmental sequence of processes has been well established. An earlier process in the sequence, say X measured at t_1, will have different properties from those of a later process in the same sequence, say Z measured at t_3. In these circumstances differences in the two processes could easily be great enough to result in random covariation of individual differences on X measured at t_1 and Z measured at t_3.

The excitement of scientific inquiry and discovery are unusually well communicated in this book, and its summaries nicely integrate a great deal of technical material. Some chapters read like a detective story in which the protagonist starts with a strong intuitive grasp of the problem, sifts through a mass of clues, and follows up promising leads. The book ends just as the plot thickens, but not without yielding valuable first approximations of underlying psychological structures which order behavioral diversity and change.

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Equal Opportunity

Blacks, Medical Schools, and Society. JAMES L. CURTIS. University of Michigan Press, Ann Arbor, 1971. xviii, 170 pp. $6.95.

For obvious reasons the professional class in America has influenced, disproportionately to its size, our economic, social, and cultural values.

Although a black professional class traditionally has provided leadership within the black community and between that community and the larger society (this leadership may now be shifting to black elected officials), its size and composition have hampered its role in the struggle for black equality. There are probably about half as many blacks in the total professional force as there should be. Moreover,