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,

they are heavily concentrated in teaching, nursing, and social work and extremely underrepresented in some fields, for example, medicine and law.

This slim volume by a black professor of psychiatry at the Medical College of Cornell University is concerned primarily with how to increase the number and quality of blacks in the nation's medical schools. A brief but informative introductory chapter on the history of Negroes in medicine and an equally brief final chapter expressing hope that black medical graduates will serve more than the black community reflect the author's strong commitment to a totally desegregated, integrated system of both medical education and health care. The several intervening chapters examine the current upsurge in black medical enrollments (they tripled between 1968 and 1970) and ways of producing more qualified black applicants and successful black medical students. The author draws on his work with black high school students in New York City and with the Cornell medical center's program to admit additional blacks. There are, of course, dozens of serious new efforts by colleges and medical schools across the nation to help more blacks prepare for and complete medical school.

Part of Curtis's favored prescription for producing more black medical graduates is "to identify those [elementary, secondary] students who are high achievers as early as possible, to arrange for their orderly transfer into the strongest possible schools in whatever neighborhoods those schools are located." He is hard on compensatory education and on concern for "high risk" students. He can also be stuffy, as when he is critical of a California college whose minority group admissions included school dropouts with police records, C averages, and no previously professed interest in college. "It should not require extended comment for me to point out," he says, "that such students would be unsuitable candidates for the medical profession."

Curtis will attract most attention, and I suspect sharp disagreement from many blacks, with his views about the role in medical education of what he still regards as the "segregated" black colleges and black medical schools at Meharry and Howard. Since Meharry and Howard do not have resources for expansion, he sees no prospects of their gaining parity with leading medical schools; his solution for them is vague but appears to rest in their further integration. He also thinks that blacks interested in medicine are best advised to avoid the black undergraduate college. "Rather than attempting to upgrade the black schools and their programs, it would be more effective to open wider the doors of the predominantly white colleges at undergraduate and medical school levels."

Certainly substantially more integration in higher education is imperative and will serve, for one thing, to increase the numbers of blacks in many important fields. But Curtis underestimates the role the historically black institution can play. One is also disappointed that he shows no more insight into the crucial importance at this time of the black college in a society that must be increasingly viewed as multicultural.

DeCosta and Bowles, in their skillful analysis of black colleges and education for the professions (*Between Two Worlds: A Profile of Negro Higher Education*, McGraw-Hill, 1971), note that preparation for prestigious professions is a new charge for the traditionally black colleges. The fact that they have not opened such professions to a large proportion of their graduates means that they have not had time to do so, not that they are incapable of doing so, given adequate resources. Indeed, some of them are beginning to send more graduates to medical school.

Nonetheless, in the long run the entry of truly representative numbers of blacks into medicine and all fields requiring advanced education and skills depends on substantially greater enrollments of blacks in postsecondary education. Equality of higher educational opportunity for blacks is a new commitment that requires full utilization of all kinds of institutions—junior colleges, senior colleges, and graduate and professional institutions, the traditionally black as well as the white. The yield from that commitment is already beginning and can become a steady flow of blacks into all phases of American life. But it will depend in part on the capacity of organized professions and higher education to adapt traditional educational forms and programs to the actual needs of students, many bearing the lingering scars of long years of deprivation.

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Peruvian Culture

Dumbarton Oaks Conference on Chavín. Washington, D.C., Oct. 1968. ELIZABETH P. BENSON, Ed. Dumbarton Oaks Research Library and Collection, Washington, 1971. x, 124 pp., illus. $6.

Like its Dumbarton Oaks conference predecessor on the Olmec, this little volume makes a very definite contribution. Chavín is the name given to the earliest great art style and civilization in Peru, and its place within the culture history of that area prompts many analogies with Olmec in Mesoamerica. Both Chavín and Olmec date from the beginning of the first millennium B.C., and it is even possible that they are in some way remotely related; however, the developments of each are separate area concerns.

There are five papers, by five authors, in the volume. Those by Lumbreras and Izumi are factual in importance. Lumbreras has found magnificent Chavín style pottery in the deep galleries of the temple complex of Chavín de Huantar. Previously, it has been something of a mystery why the finest Chavín pottery came from the Peruvian north coast rather than the highland type site. Lumbreras offers a four-subphase seriation of the pottery which is convincing in general outline, but more refinement is obviously needed. Izumi recapitulates much that has been offered in earlier monographic presentations on Kotosh; however, this article brings us up to date on the preceramic Mito phase at that site.

Patterson and Lathrap are concerned with the context of Chavín culture or influence. Patterson goes about this by examining a series of pre-Chavín-to-Chavín events at several sites in central Peru. Here the reader must pay close attention, for the author uses the Rowe chronology in the strictest sense so that some Chavín influences are seen to trickle into certain central coastal sites in the latter part of the Initial Period; only with the full force of Chavín diffusion do we reach the Early Horizon. Patterson draws a most interesting analogy here with the spread of early Christianity in the Old World. Its archeological evidences in the first three centuries of its propagation were slight. These tended to be found in urban locations. Only later was the new religion memorialized in art and architecture.

Lathrap argues for the close relationship of Initial Period Waira-jirca, the