Book Reviews

A Long-Term Project in Psychology

Lives Through Time. JACK BLOCK. In collaboration with Norma Haan. Bancroft, Berkeley, Calif., 1971. xxii, 314 pp., illus. $12.50.

Institutes for the systematic study of children sprang up in many places during the 1920's, offering the possibility of extended research by qualified teams of career investigators at a time when most behavioral studies were done in a professor's odd moments. The leaders of many teams saw longitudinal studies as the ideal way to capitalize on the new opportunities. Surveys of samples at different ages had yielded many facts, but long-term study of a single cohort was needed to describe developmental processes and the emergence of individuality.

For all the hopes and skill of the founders, not much came out of the typical longitudinal study. The Institute of Child Welfare (now the Institute of Human Development) at Berkeley was comparatively fortunate. The study of intellectual growth done there by Nancy Bayley has been of unparalleled value. The Guidance Study and the Oakland Growth Study gave rise to excellent thought about adolescents and blazed a methodological trail. But few follow-up reports capitalized on the longitudinal plan of these two projects, though what could have been done was illustrated by two papers by Mary C. Jones (one with Mussen). These, in showing that boys who entered puberty early were socially more effective and emotionally more stable in later years than those who reached it slowly, linked personality development to biological events. Now, at long last, Block's book draws on the store of records to trace connections between the adolescents' characteristics and their adult life styles.

The two studies, for which Jean Macfarlane and the late Harold Jones were chiefly responsible, collected the adolescent data in the 1930's. Quasi-anecdotal records of personality were made on the basis of reports by the subjects' parents, descriptive impressions recorded by their classmates, and the staff's intimate knowledge of the youngsters. In 1957 the subjects were recalled for interview on their life histories. Some time after that, Block found himself committed to making what he could of files describing 171 persons as seen by some first-rate psychologists, over 7 years in adolescence and over about 3 days in their late 30's.

To beat protocols into data, Block used his version of William Stephenson's Q technique. This requires, first, a "Q" sort. A judge reviews each person's file, and arranges a standard set of about 100 statements into 9 piles such that the extreme piles contain the statements that are most characteristic or least characteristic of the person. (Specimen statement: "Is emotionally bland; has flattened affect.") The Q sort is admirably suited to capturing impressions of personality in a standard but flexible form, and it is especially suited to this study. Block worked painstakingly to get reasonably consistent ratings for each file.

Alongside the main Q sorts are various other data. Looming large in the results is a Q sort describing the background of physique and parental style that presumably shaped personality. This is based on the adult subject's retrospective account, rationalizations and all. The judging process here is less reliable and the evidence much less veridical than the evidence on the subject's personality.

Having, in the end, some 400 data points for each subject, Block required a strategy for consolidation. As his main tool he chose Q correlation, an index of the resemblance of one Q-sort description to another based on another time or for another person. He carried out a factor analysis to define five male and six female types. For each type this book offers eight dense pages of descriptive findings, mostly in the form of Q statements on which the type differed from other subjects of the same sex.

For some types, adult personality descriptions echo the adolescent ones. The correlation of high school Q sort with adult Q sort (corrected for errors of judging) ranges over types from a high of .78 to a low of .17 (median .38). (A peculiarity of the Q method is that a "chance" correlation, between two descriptions taken at random, is greater than zero. Block does not report this reference level for correlations of a given kind, though it is needed.) Even where the change is greatest there is evident continuity. Thus group B men (who gave the r of .17) are in adulthood the highest in mean economic status though the least educated, and the lowest in childhood intelligence (average IQ, 106). They are businessmen, joiners, Republicans; dependable, productive, cheerful, calm. In junior high school they were seen as basically hostile, brittle, not valuing intellectual matters, not poised, narrow in interests. The contradictions are reconcilable when we see these adolescents as plebians resistant to school and to outer demands and lacking in purposes of their own.

A fuller account of group E (downward mobile, bright) will illustrate what Block has to report regarding etiology:

> Childhood IQ 128, high for this cohort; adult IQ only average for cohort. Two years of college. They are salesmen, policemen, entertainers, etc.; have changed occupations often. Alcohol usage high. More often divorced than others. On adult California Personality Inventory, high on Dominance and Sociability, low on Socialization and Self-Control. As adults, moody, uncontrolled, interesting. In senior high, rebellious, thin-skinned, self-defeating, not dependable, not cheerful.
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> From high SES homes. Father had been married before; uninterested in son, often withdrew from family role. Mother restless, self-centered, sophisticated, "manifestly sexy" in relation with son. Parents fought. These men as adolescents were comparatively unsocialized. They gradually settled into a way of life, but they have never found themselves.

Block's strongest generalizations have to do with the evident good influence of homes with stable, responsible parents, and the bad influence of parents who neglected the parental role. He finds the character and actions of the father fully as significant as those of the mother. A neurotic parent tends to have the greatest adverse effect on a child of the opposite sex.

Block correctly stresses that generalizations lumping all youngsters together are misleading. Regarding, for example,

the Jones-Mussen comparison of early and late maturers, he states that their conclusion holds up for some types and is reversed for others (which, being less numerous, were outweighed in the aggregate analysis).

This is important, but it also brings into sharp relief the weakness of Block's book. Block gives almost none of the quantitative summaries needed. Group D boys "may be regarded as 'early maturers'" but they became insecure men, not the confident men Jones and Mussen lead us to expect. Very well—but of the 11 group D boys *how many* were early maturers? And if fewer than 11, what was the correspondence within this group of biological maturing and adult personality?

Another fault: the writing is awkward to the point of agony. The sentences writhe about the content, strangling thought. There are innumerable clauses like this one: " . . . differential parental impactfulness eventuates in a personality product that is incomplete and imbalanced."

The types, the descriptions of which constitute the main report, are achieved by a tour de force. Other groupings with an equal degree of coherence could have been "clustered" around almost any set of four to six well-spaced individuals. Orthogonal varimax rotation of axes is a mathematical convenience; unless the original correlations have a remarkably strong structure, the factors that result deserve no special consideration as a basis for theory. Block's broad generalizations would probably hold up if he had formed the types differently, but his types are themselves little better than arbitrary.

A deeper issue arises from Block's requiring members of a type to have roughly similar patterns both in adolescence and adulthood. It would have been wiser to group on the basis of adolescent similarity, and then to report the frequency of various adult personalities for each group. Practically and theoretically, one wants to know what alternative futures are likely for a teenager of a given pattern. Block's scheme tempts us to recognize the next boy we see as belonging to, say, type E, and then to forecast that the boy will have a type E future. Block's methodology leaves him no way to report divergences among persons who are similar at age 13.

Block has been headstrong too in his refusal to provide trait scores for individuals by weighting relevant to Q-sort items. In his view, a 100-item Q description reports on 100 dimensions and much would be lost in trait scoring. But about five traits account for most of the variance in a judge's impression; Warren Norman, for example, has suggested extroversion, agreeableness, conscientiousness, emotional stability, and culture as an adequate list for men. Do Block's Q descriptions contain reliable variance in more than a few dimensions? Probably not; the statistical check that could easily have been made is not mentioned. If dimensionality is low, one could score each Q sort on a short list of traits, and then regress adult scores onto the profile of earlier scores, separately for early and late maturers, for example. Perhaps this would have made an arbitrary typology unnecessary.

The investigator who agrees to do his utmost with an archive laid down before he came on the scene is doomed to frustration. Midway in the work, questions came to the fore that were not anticipated and for which data are fragmentary or missing. Even if the original investigator is no longer on the scene, he has left behind him a set of visions and a loyal team of former associates; the massive, long-range study thus becomes an institution with which the analyst must compromise. In a rewardingly human postscript, Block is frank about the stresses he experienced as the intractability of the data and the human factors caused the analysis to drag on a dozen years beyond the time of the follow-up. He wonders aloud whether longitudinal studies are worth it all (as does Sontag of Fels in a recent retrospective article in *Child Development*).

Jones, Macfarlane, Block, and all the others who contributed to this research deserve our thanks. An investigator starting a study of adolescents today might ask additional questions, but he would find none of the original questions uninteresting and he would not be able to improve much on the quality of the data. Block's careful reduction of the files to Q descriptions is a contribution few others would or could have made. His broad conclusions are significant, and even though his typologies constitute a set of 11 stereotypes they still give the psychologist and the layman much food for thought. Perhaps the greatest yield of the study is yet to come, since Block tells us that others will be making more focussed, methodologically conventional studies of the Q descriptions, which now constitute an archive important in their own right.

LEE J. CRONBACH
School of Education, Stanford University, Stanford, California

A Mode of Force

Affinity and Matter. Elements of Chemical Philosophy, 1800–1865. TREVOR H. LEVERE. Clarendon (Oxford University Press), New York, 1971. xviii, 230 pp. + plates. $14.50.

The discovery of the voltaic pile in 1800 attracted great interest among chemists of the day, and since an exciting property of current electricity was its ability to decompose compound substances it is not surprising that this discovery gave rise to many new ideas concerning the electrical nature of chemical affinity. Affinity can be considered a fundamental concept which brought unity to the often disparate areas of chemistry in the years between 1800 and 1865, after which other factors such as valence and structure became more important. Therefore it is hoped that a consideration of affinity theories will be of use to the historian in bringing order to this confusing period in the development of chemistry. Because of the author's belief that the concept of chemical affinity did not exist independently of those men who contributed to its development, he has written this book as a series of chiefly biographical essays and has not attempted to broadly trace the history of affinity theory. Consequently the book's importance must be limited to the detailed analysis of the affinity theories developed by Humphry Davy and Michael Faraday, and to a lesser extent those of J. J. Berzelius and others whose ideas formed the structure for speculation on the nature of chemical force and matter during the first half of the 19th century.

In an attempt to relate these ideas on chemical affinity to the general intellectual background of the 19th century, the author discusses at length the origin of the religious and philosophical views of Davy and Faraday which "exerted a demonstrable influence on the formation and development of assumptions about the nature and interrelation of matter and chemical force." In this he enters an area of recent controversy in the history of science, which has centered around criticism of the work of L. Pearce Williams on the influence of the ideas of Roger Joseph Boscovich and *Naturphilosophie* upon the experimental researches of Michael Faraday. Levere's treatment of Faraday follows closely that of Williams and betrays a somewhat uncritical acceptance of his position. Levere does, however, consider other factors, such as a