

succession and to uncover any evidence bearing on the fate of a group of colonists (the "Lost Colony") who disappeared shortly after they founded Fort Raleigh (in 1587). Although the program was unsuccessful with respect to the latter aim, a considerable amount of useful data bearing on the former problem was obtained.

Since the area selected was too large for a complete survey, the field strategy was "to obtain representative sites throughout and, where circumstances suggested favorable results, to make test excavations in order to establish the chronological sequence of cultural events" (page 2). Consequently, most of the field work was in the nature of surface collecting, but stratigraphic test excavations were made at five sites, which were the most promising from the standpoint of depth of midden. Cultural materials, principally pottery sherds, were obtained from most of 81 "sites" located on Hatteras, Ocracoke, Bodie, Collington, and Roanoke islands, on the adjacent mainland in the vicinity of the Neuse River, and on Albemarle and Pamlico sounds.

As one might expect in a report of this nature, the bulk of the study is taken up by a description of the individual sites and a technical analysis and comparison of the pottery with that of adjacent regions in terms of temper, paste, surface finish and decoration, and form. However, in two final chapters Haag skillfully combines limited inferences from sparse archeological data with good regional historical data to produce a plausible reconstruction of aboriginal culture history. The latter is divided into an early period (hunter-fisher-gatherers), a middle period (introduction of agriculture), a protohistoric period (a time of numerous contacts with other areas, especially with the interior Piedmont and the Virginia coast and Chesapeake), a historic period (a period of considerable political adjustment), and a displacement of aboriginal culture period (post A.D. 1587).

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The Second (1957) University of Utah Research Conference on the Identification of Creative Scientific Talent.

Calvin W. Taylor, principal investigator. University of Utah Press, Salt Lake City, 1958. vii + 255 pp.

The need for identification and support of individuals gifted with creative scientific talent has been increasingly recognized in the United States since the fall of 1957. It is to the credit of the National Science Foundation that since

its inception, and particularly since 1954, it has effectively encouraged investigation aimed at discovering and nurturing potentially creative scientists, and it has supported two summer research conferences on this topic, in 1955 and 1957. This report of the second conference, held in Brighton, Utah, 17-20 Aug. 1957, has the same form as that of the earlier conference [reviewed in *Science* 125, 813 (1957)]; it is prepared from a complete transcript of proceedings and presents 15 original papers, discussion of each paper, and two committee reports. Restrained and judicious editing by the participants has served to retain the liveliness of the discussions; the enthusiasm of the participants is apparent and contributes to the readability of the product.

A reader in search of hypotheses concerning characteristics of the creative scientist and methods for identifying him will find that almost every contribution to the conference offers stimulating suggestions. Of particular interest is the view of a criterion committee, which reported to conferees, "The measure of a creative product should be the extent to which it restructures our universe of understanding." The committee report continues by suggesting means for estimating degree of creativity for established scientists and proposes a series of testable hypotheses which specify promising relations between this estimate and other variables (for example, the diversity of a scientist's contributions).

To one hoping to discover proven methods for the successful selection of promising scientific talent, the report will be provocative but disappointing. In the empirical studies cited, attempts to distinguish creative scientific achievements or to discriminate between creative and noncreative scientists on the basis of academic grades or standard aptitude measures were not remarkably successful. While in two or three studies certain aptitude measures showed some promise, the more typical finding was one of no relationship between this class of variables and creative scientific achievement. In explanation, the report does not rule out inadequate criteria of creativity, unsatisfactory predictor variables, or inappropriate experimental design and analysis. Nevertheless, there remains the tenable conclusion that conventional measures of intelligence and academic achievement are not good measures of creativity. Participants emphasize the probably greater value, as indicators of creativity, of certain special aptitudes (such as the aptitude for divergent thinking), of certain qualities of temperament (for example, independence versus conformity), and of certain kinds of motivation (for instance, inquisitiveness of mind); it is suggested that new tests be developed where none now exist for measuring such variables.

Not the only challenge contained in the report is directed toward research on identification of creative scientific talent. Repeatedly participants emphasize the danger that academic training procedures or environmental working conditions may inhibit rather than excite the creative impulse. In the words of one, "More good people are spoiled scientifically and in their creative thinking by being frightened than [by] anything else." While this report will affect most directly the research area which it represents, its relevance to the training of scientists should not be overlooked.

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Symposium on Sociological Theory.

Llewellyn Gross, Ed. Row, Peterson, Evanston, Ill., 1959. ix + 642 pp. \$7.25.

This book of 19 essays covering theory in sociology is as good as anything available. Happily, one advantage—not more than three of the essays are long-winded or dull—will assure recognition of the book's merit. The essays range from a confessional "how-to-do-it" piece, by C. Wright Mills, through an artfully complex but not difficult "axiomatization" of linguistics, by Joseph H. Greenberg, to Anatole Rapoport's "Uses and Limitations of mathematical models in social sciences."

Unfortunately, however, a prejudiced outsider will probably leave the book with his prejudices intact. The difficulty is stated forthrightly in Robert Bierstedt's article: "The important lacuna . . . is that between metasociological theory on the one hand and sociological theory on the other or, stated differently, between methodological theory and substantive theory. Metasociological theory is now a highly developed discipline; sociological theory, on the contrary, is still a weak and pallid thing whose pursuit receives no special encouragement within the profession and whose major achievements frequently come not from academicians, but from novelists, journalists, publicists, and those relatively few sociologists who are not afraid of epithets like 'unscientific'." Even Greenberg says of linguistics, which vies with economics for being the most thoroughly "scientific" of the behavioral sciences, that it "does not at present have a general theory as this term is employed, e.g., in physics. What can be axiomatized is rather the descriptive methodology of the science."

There is a lot of "metasociological theory" in this book. Sociologists must, apparently more than other scientists, recognize that all "facts" are perceived phenomena and that the statement of a