

ported. Synonyms can be traced in the "Dictionary of synonyms and trade names." If the property is listed in book 1, the user then locates his substance number within the appropriate property division of book 2. Simple coding of the physical state of the substance and the subject slant, language, and year of publication of the article enables the searcher to make a knowledgeable selection of the literature cited. The serial number of the citation chosen is then traced among the 10,000 items listed in the "Master bibliography" of book 3. These bibliographic entries point the searcher to the primary literature where the desired information has been published. The preliminary pages of each book present much descriptive and informative material, the importance of which cannot be overemphasized. The summaries located inside the back cover of book 1 will be praised by all those who use the set repeatedly.

The major hurdle in using the volumes is the identification of the substance code number. A work which covers all matter must, of necessity, have a complicated classification system, but I feel that small inconsistencies in the arrangement of the "Directory of substances" (book 1) are unnecessary aggravations which reduce retrieval efficiency. The segregation of classifications 100 and 200 into separate alphabets and the alphabetization of individual classes in the higher series is not immediately evident, and this nonuniformity may not always be remembered by searchers. Occasional users and the uninitiated may, therefore, misuse the "Alphabetized name directory." The value of a single alphabetical arrangement, including the "Dictionary of synonyms and trade names," should be given careful consideration. One could then postpone decisions on classification until the various coding possibilities became evident under the name of the material.

Other criticisms concern format. Thumb indexing books 1 and 2 would speed access to particular sections. Additional properties to be covered in later volumes should be listed on the spines. Improved typefaces now available through computer-controlled photo-composition would make books 2 and 3 easier to use.

The high cost of the set may preclude its purchase by many individuals and force the use of library copies; therefore, research libraries will find purchase a necessity. The documentation group

at the Center hopes to gain some financial support from this limited market.

At present, machines do not solve the information retrieval problem, but computer-generated volumes such as the *Retrieval Guide* present a marriage of machine and book which offers one solution. For example, anyone who contemplates a literature search on the effect of dichloroacetic acid on the viscosity of polystyrene or on the specific heat of oxygen fluoride and who also realizes that in 10 minutes the *Retrieval Guide* can provide the answer must appreciate the magnitude of this work.

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Borrowed Behavior

Perspectives in American Indian Culture Change. Edward H. Spicer, Ed. University of Chicago Press, Chicago, Ill., 1961. x + 549 pp. Illus. \$10.

Anthropologists have written many case studies describing what happens when different cultures meet, but it has not been clear how these complex descriptions could be compared to yield further general understanding of culture change. This volume represents a major advance in the comparative analysis of change.

The volume is the outcome of an interuniversity summer research seminar (held in 1956) on the comparative study of acculturation. The seminar, sponsored by the Social Science Research Council, brought together six anthropologists who are engaged in the study of North American Indian groups: the Yaqui (Spicer), Rio Grande Pueblos (Dozier), Mandan (Bruner), Navaho (Vogt), Wasco-Wishram (French), and Kwakiutl (Codere). The editor introduces and summarizes the seminar's general approach and findings, while each author presents his case analysis.

The distinctive features of the seminar's approach are the particular kind of regularity in culture change which it sought to elucidate and the techniques which it developed for this purpose. Faced with a fascinating diversity of responses to culture contact, the seminar's participants found it most fruitful to seek regular relationships between types of culture change and types of contact situations. To do this, the history of each culture was first divided into a

series of "periods" which appeared to be relatively uniform internally yet different from adjacent periods. Each tribal history was as long as could be constructed by using modern archaeological, linguistic, ethnohistorical, and field work evidence. This made it possible to isolate about 22 different periods in the six cases. These periods provided the basic units used for comparative purposes.

Second, in defining periods as well as in comparing them, the seminar sought to conceptualize those aspects of contact situations which are most significant for culture change, such as the difference between directed and nondirected situations. These features were used as a basis for formulating tentative types of contact communities. Finally, there was the even more difficult problem of characterizing processes or types of cultural change. This was approached by examining the different ways elements from different traditions combine and become culturally integrated. Processes such as incorporation, assimilation, fusion, and isolation are distinguished and analyzed, and limited hypotheses about their relations to types of contact situations are suggested.

This significant book thus pioneers one of the first comparative methods which seems able to successfully assimilate the complexities of acculturation data.

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Uganda's Labor Patterns

Migrants and Proletarians. Urban labour in the economic development of Uganda. Walter Elkan. Oxford University Press, New York, 1960. x + 149 pp. Illus. \$3.40.

This volume adds substantially to our knowledge of Uganda, a part of East Africa for which the documentation is already quite good. Elkan's title is derived from the fact that in the urban areas of Uganda (the study is based more particularly on the larger towns of eastern Uganda—Kampala and Jinja especially) two distinct groups of employed people are found. The migrants, drawn from all parts of Uganda and from the outside as well, are only temporary residents in the towns. The proletarians are mainly those indigenous to the immediate areas

in which the towns have grown up. They are local people, heavily dependent upon the wages they earn, for whom subsistence agriculture is either unattractive or impossible. For migrant workers, of course, wages are a supplement to farm income.

This is a pattern which, with substantial variations, is familiar elsewhere in Africa and in parts of Asia as well. The special merit of Elkan's work is that he questioned the usual assumption that short-term migration is essentially a transitional factor. He concludes that there are some decidedly positive advantages to migrant labor and that it is likely to persist.

Elkan provides the reader with a brief statement of his problem and with a summary description of Uganda, before proceeding to his more detailed discussion. The main part of the book provides a carefully drawn account of labor patterns: where and under what circumstances people are employed, variations in skill and in wages, the place of trade unions, the problem of labor efficiency, and the ways in which management enters into the picture. Since the employees are primarily Africans and the employers are ordinarily either Europeans or Asians, discussion of the former is most detailed.

Elkan draws useful comparisons with past and present English experience wherever possible and thereby highlights his own account. His writing is lucid, points which might be obscure to the nonspecialist are usually explained, and the implications for areas other than economics are often indicated. This book should appeal to—and be read by—a very wide audience.

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Schools in Focus

The Schools. Martin Mayer. Harper, New York, 1961. xviii + 446 pp. \$4.95.

"Why another book about the nation's schools?" Some hard-pressed educators may add, "And why one by an outsider?" There has been so much analysis, comparison, attack, and defense in other recent volumes, what more is there to say?

One need read only a few pages of

The Schools to find that these are the wrong questions. Let the author himself explain:

"It was because I had some sense of the unreality of the 'great controversy' in education that I wanted to write this book. . . . The critic shouts that the schools are lazy and the educators fools; the educator shouts back that the critics are reactionaries and their criticisms are ignorant. . . .

"What follows is the result of some thirty months of observing, interviewing, reading and (briefly) teaching. The work has taken me as far east as Helsinki and as far west as San Francisco. I have visited about 150 schools and spoken privately with more than fifteen hundred people involved in one way or another with the education of the young. I have read forty or fifty linear feet of books and an uncounted weight of periodical literature. I would not say that my preparation was sufficient, but six thousand pages of notes are all the file will hold; and there comes a time when a man who writes for a living must sit down and write his book.

"The effort throughout has been to get at the realities of education, to cut below the controversy to the problems as they present themselves inside schools both in the United States and in some countries of Western Europe. Shortly after undertaking the job, I spent three months attempting to find and remove my own biases on this subject, so that I might enter the schools with as neutral a view as I could achieve."

From this neutral, reporter's background Mayer has produced a book that rates an A for reading by teachers, school administrators, critics, or parents. With sympathetic understanding instead of passion, in clear vivid English instead of jargon, with frequent specific examples, he describes the nation's schools, what they are like, how varied they are, how they became the way they are, the standards of quality expected, the preparation of teachers, the examination system and the uses of intelligence and other standardized tests, the teaching of different levels from kindergarten through senior high school, and the teaching of the native tongue, mathematics, science, the social studies, and foreign languages.

In all of this, Mayer's objective is to describe and analyze rather than to praise or blame or preach. He analyzes with skill, gives enough of the history of current problems to provide background, and intersperses illuminating

vignettes from classroom observation in European and American schools. He contrasts some of the exciting and imaginative things being done in some schools with the dull and dreary work going on in others.

Two ideas emerge with special clarity. Neither is new, but both have been buried in much of the shriller writing. One is that the schools are extremely varied; they cover the whole range from indefensibly stupid to exceedingly good. The other is that slowly, gradually, but cumulatively, the schools improve. But if this conclusion is hopeful, it is also sober. Improvement requires better teachers, better preparation of teachers, better teaching materials, better understanding and support on the part of school board and society. The excellence of many schools indicates that we know how to improve others, but, in Mayer's words, "the damnable difficulty is that all those connected with schools insist on behaving like people."

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Miscellaneous Publications

(Inquiries concerning these publications should be addressed not to Science, but to the publisher or agency sponsoring the publication.)

Atomic Energy Levels in Crystals. National Bureau of Standards Monograph 19. John L. Prather. 88 pp. \$0.60 (order from Supt. of Documents, GPO, Washington 25).

Agricultural Research Council Radiobiological Laboratory Report. No. 4. "Strontium 90 in milk and agricultural materials in the United Kingdom, 1959-1960." Her Majesty's Stationery Office, London, 1961. 94 pp. \$0.95 (order from British Information Services, 45 Rockefeller Plaza, New York 20).

Food and Nutrition Council of Greater New York. "Selected films and filmstrips on food and nutrition." Columbia Univ., New York, 1961. 85 pp.

National Science Foundation. "Investing in scientific progress. Concepts, goals and projections." The Foundation, Washington 25, 1961. 30 pp.

A Systematic Laboratory Course in General Chemistry. Harry H. Sisler, Jay J. Stewart, and W. T. Lippincott. Macmillan, New York, ed. 2, 1961. 358 pp. \$4.

U.S. Atomic Energy Commission. TID-12439. "Bioenvironmental features of the Ogotoruk Creek area, Cape Thompson, Alaska." A first summary by the Committee on Environmental Studies for Project Chariot. Division of Biology and Medicine, 1960. 76 pp. \$1 (order from Office of Technical Services, Department of Commerce, Washington 25). "SL-1 accident." AEC Investigation Board Report. 1961. 183 pp. \$0.55 (order from Supt. of Documents, GPO, Washington 25).