Book Reviews

A-Bomb Story—British View

The Birth of the Bomb. The untold story of Britain's part in the weapon that changed the world. Ronald W. Clark. Preface by Sir George Thompson. Horizon Press, New York; Phoenix House, London, 1961. 209 pp. $3.95.

Subtitled "The untold story of Britain's part in the weapon that changed the world," this book is a long-needed and welcome filler for a lamentable gap in the published history of nuclear weapons and atomic power. Done with meticulous and detailed care and a scholarly thoroughness and with an almost painful effort to be truly fair to both British and American sides of the story up to Hiroshima and Nagasaki, the account is much more personal and circumstantial than its American counterpart, the "Smyth Report." The latter was devoted largely to chronology, basic physics, and engineering detail, while this one retells romantic happenings and gives vignettes of personalities and of the sometimes ironical circumstances attending the strictly physical developments. The book follows by 16 years the White Paper, "Statements Relating to the Atomic Bomb," put out by the British Government in 1946, immediately after the publication of the American report. Unfortunately Clark neglects to mention that the Smyth Report was not merely a matter of "natural American exuberance" and pride of accomplishment but that it was also made with the serious purpose of facilitating ultimate international control of atomic energy, the need for which was clearly seen by many. Only by such publication could there be any hope at all of such control: a hope now, alas, belied.

The author has skillfully conveyed the sometimes amazingly informal atmosphere in which much of the British research during the years 1939 to 1941 was conducted, and he brings out the irony of the situations in which extensive nuclear research was conducted by non-British subjects, who, being non-British, were thereby debarred from helping with radar, magnetic mines, or other classified work. In this country also, how to keep random scientists from thinking classified thoughts remained a puzzle to the security personnel throughout the life of the Manhattan District.

The early French contributions to the data on nuclear fission and the existence of French patents—taken out in 1939—on bombs and piles are of course no secret, and the romantic story of heavy water has been fully publicized. But the author is surely right in saying that the general public is not aware of the vital role British research and scientific thought played in starting the United States off aright, even though Clark quotes President Truman as saying, "Britain, whose scientists had initiated the project and were contributing much of the original atomic data . . . ," and Arthur Compton as saying, "The British approach was, from the beginning, however, focused specifically on a definite weapon whose construction was roughly outlined. . . . In 1940 it was still difficult for us in America to concentrate our thoughts on war, while for the British it was their prime concern . . ." (to pick two representative informed samples). The scientific public can be glad that the present book is so full and so informative.

The U.S. Decision

It seems that "the Americans suddenly found themselves in the Fall of 1941 standing unexpectedly on the threshold of the nuclear age" and really got started on it with the third report from the National Academy of Sciences. To some extent that decision to start was independent of the British, since the "Maud Report" was received "under terms which did not permit disclosure to the Academy Committee." But with the return of Pegram and Urey from Britain with full information on the British progress, there was no room for doubt as to the bomb's ultimate feasibility. The author says, "It would be as wrong to underestimate [the American] creative work in building the bomb as it would be to ignore the pioneer work of the British in cutting through the mental undergrowth that first had to be cleared away." Not merely clarified thinking but good solid experimental data, calculations based on them, and actual techniques for making barriers and other things were to be had from Britain. Typical of the author's care in passing judgment is: "The bomb would probably have been made had Chadwick and Peierls and Frisch and Thomson never bent their energies and ingenuity to the task; but it would probably have been too late for this particular war." Nationalistic pride in the scientific accomplishments of one's own country seems to be a more vigorous emotion abroad than that it is here, or at least it is more often voiced, perhaps because so many of our best brains are recent additions to our nation. This book, too, is instinct with a quite proper pride in the extensive contributions made by the British. But it is faintly ironic that in its index among the 36 scientists listed and actively connected with the bomb in England, 14 names are of immigrants and 22 are of native Britons. And contrasting with this proper pride is just a touch of the feeling expressed in the comic English history *1066 and All That,* whose last sentence reads, "America Thus became Top Nation, and History came to a [full stop]."

Morality and the Bomb

Historical material occupies the first 11 chapters of Clark's book, but in the last one, "The end product," the author's own views on war and morality get full play. Everyone must decide for himself as to the morality of the use of the bombs at Hiroshima and Nagasaki, but to me such armchair exercises seem futile in the face of the hideous immorality of war itself. However, to one phrase of the author's, more vigorous exception must be taken: it was no "stumbling decision to drop the first nuclear weapons," but a decision long and most seriously examined in all its implications, with the result that even the scientific advisers of the committee

set up by President Truman could "see no alternative to direct military use." I suggest that Clark should reread page 419 of President Truman's *Year of Decision*. There had been a rejection of the Potsdam ultimatum, and there had been no word at all from the Japanese after Hiroshima. Nagasaki was the necessary clincher. I submit it is unnecessary to "speculate which of many factors was uppermost in American minds in the Summer of 1945." The only mind that mattered here was Truman's, and he has given his reasons *in extenso*. To give the author his due, he does balance the various possible motives, irrelevant though they may be, but to imply that Nagasaki was merely a test firing of a plutonium weapon is to forget too much what war is like.

This criticism, of course, has no relation to the value of the book as a significant contribution to recorded history.

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Cultural Internalization

Structure and Personality. A casebook. Yehudi A. Cohen. Holt, Rinehart and Winston, New York, 1961. xiv + 528 pp. $7.50.

Much that we call personality represents the internalization of the culture into which one is born. The emergence of "culture and personality" as a field of study, in the decade before World War II, helped to break down narrow disciplinary parochialism in psychology, sociology, and anthropology. In its early form, however, the culture and personality approach tended to exhibit two types of oversimplification: (i) treatment of the culture as though it were a relatively homogeneous affair, influencing all members of the society in much the same way and (ii) a tendency to see the child as an overly plastic, almost passive recipient of cultural shaping. This volume by an anthropologist with a social psychological perspective draws heavily on studies of nonliterate cultures and on cross-cultural studies, but the author-editor very largely avoids the pitfalls of too easy generalization from "simpler societies."

No person participates in the whole of his culture, even in the simplest societies. The cultural content and interpersonal expectations which one internalizes depend upon one's position within the social structure—the network of relationships between individuals, families, and other groups making up the society. Moreover, socialization is always oriented toward preparing the child to live in the kind of world that the parents anticipate, which may not be the world as it now is. These axioms guide the author in examining the effects of societal institutions on the socialization of children and on the course of growing up, in considering aspects of personality which are required for the successful functioning of particular institutions, and in noting the effects of institutions on the personality processes of adults. Drawing upon recent research on social structure and socialization, Cohen documents the ways that race, social class, and changing values influence the content that parents transmit to their children and the ways that parents exercise control over children.

If different positions in the social structure tend to produce different emphases in personality organization, one must inevitably be concerned with the fit between these personality constellations and the requirements of various adult roles and institutional arrangements. The case materials drawn on for this analysis relate to occupations, military and caste structures, and modal patterns of total social systems. Another problem of fit occurs when people move from one social system to another or when the social system undergoes marked change in a relatively short period. Finally, in a section on the sociological conditions of personal disorganization, Cohen examines the ways in which psychosis is manifest in different cultures and in different strata within our own culture and develops briefly the view that psychosis must be seen as one aspect of the individual's placement in his social structure.

While called a casebook, this is no mere collection of readings from the literature. It is a well-reasoned and well-organized presentation of the relationships between social structure and personality as revealed primarily by anthropological studies, but with some inclusion of sociological and psychological research as well. This book does not wholly avoid the impression that man is plastic to be molded; it does achieve a coherence and cogency that will certainly lead to its wide use by social scientists interested in personality.

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Marriage of Convenience

Retrieval Guide to Thermophysical Properties Research Literature. vol. I. Book 1, pt. A, *Guide to Substance Classification and Numerical Codes*. pt. B, *Dictionary of Synonyms and Trade Names*. pt. C, *Directory of Substances*. xii + 11 pp. + 90 pp. + 1250 pp. Book 2, *Classified Search Index*. vii + 169 pp. Book 3, *Master Bibliography. Author Index*. ix + 372 pp. Y. S. Touloukian, Ed. McGraw-Hill, New York, 1960. $120.

The growing number of information centers which selectively condense reference material in specialized fields is indicative of the literature ills afflicting research today. More than 400 such centers presently exist in the United States, and the trend is to be encouraged, *if* worthwhile publications result. A leading example of these centers is the Thermophysical Properties Research Center (Purdue University) which has cooperated with McGraw-Hill Book Company in the publication of the *Retrieval Guide to Thermophysical Properties Research Literature*. This machine-generated reference tool reduces an extensive literature search to a unique, systematized, "look-up" procedure, the end product of which is a reference to a publication containing the detailed information.

Volume I, now published, covers seven thermodynamic and transport properties (thermal conductivity, specific heat, viscosity, emissivity, diffusion coefficient, thermal diffusivity, and Prandtl number) for 14,240 substances. Two proposed volumes, to be published at intervals of 12 to 18 months, will survey the literature from about 1920 onward for nearly 30 such properties (coefficients of thermal expansion, surface tension, vapor pressure and P.V.T. data, derived thermodynamic properties, latent heats of fusion and vaporization, critical constants, boiling and melting points, thermoelectric constants, and electrical conductivity). The three books of volume I (a desk-size counterpart of computer records) provide comprehensive, though not easy, access to book, journal, and report literature on data, theoretical approaches, and experimental measurement techniques.

In book 1 the user can find, arranged by either formula or name, the material of interest, its substance number, and a listing of the properties re-