Book Reviews

Brighter Than a Thousand Suns. A personal history of the atomic scientists. Robert Jungk. Translated by James Cleugh. Harcourt, Brace, New York, 1958. xiv + 369 pp. $5.

This is a thoroughly bad book which is so interestingly written that it is sure to be widely read, and thus to make a large contribution to spreading confusion and erroneous views about its subject. It is a story of the development of nuclear physics, through the war-time atomic bomb project, the postwar political struggles for domestic and international control of atomic energy, the controversy about H-bomb development, and the Eisenhower-Strauss persecution of Robert Oppenheimer. The book was first published in Germany and has already been published in translation in England.

It abounds with interesting anecdotes. But it is such a sloppy job that there is some serious error in nearly every one of the anecdotes about incidents of which I have personal knowledge. This leaves me quite without confidence in the correctness of the others. But the anecdotes are not important: they are just the spice that gulls the reader along so the author can slip in his thesis, with slanted writing in place of evidence.

The book is devoted to propagandizing the view that is stated in the opening paragraph of Chapter 7: "It seems paradoxical that the German nuclear physicists, living under a saber-rattling dictatorship, obeyed the voice of conscience and attempted to prevent the construction of atom bombs, while their professional colleagues in the democracies, who had no coercion to fear, with very few exceptions concentrated their whole energies on production of the new weapon."

The proposition that "good" German scientists sabotaged the Nazi war effort in this respect is first explicitly stated on page 88 and developed to the end of Chapter 6. The thesis is that Werner Heisenberg and C. F. von Weizsäcker, as heads of the German uranium project, deliberately refrained from development of the bomb. A careful reading of these pages shows no real evidence in support of this thesis. Jungk says (page 88): "Most of those concerned have themselves preferred, for the sake of discretion and tact, to restrict mention of this delicate affair to a somewhat narrow circle." Clearly this statement is intended to influence the reader not to expect evidence, inducing him to understand why none exists, and therefore uncritically to accept the thesis on the basis of Jungk's reiterated assertion of it.

Several pages are taken up with a narration of a visit which Heisenberg made to Niels Bohr in Copenhagen in October 1941. Jungk calls this visit "a little-known peace feeler." Continuing (page 99) he writes: "By the expedient of a silent agreement between German and Allied atomic experts, the production of a morally objectionable weapon was to be prevented." After a long build-up that this was the purpose of Heisenberg's talk with Bohr, however, Jungk has finally to say: "But unfortunately he never reached the stage of declaring frankly that he and his group would do everything in their power to impede the construction of such a weapon if the other side would consent to do likewise."

After some more talk Heisenberg "nerved himself to assure the other with all the emphasis at his command that he knew it to be perfectly possible to produce such a weapon and that it could actually be manufactured, if a very great effort were made within a short time." On pages 102–104 is published a postwar letter from Heisenberg to Jungk about this incident. Nothing in this letter supports Jungk's thesis that the German scientists were trying to make an agreement with Allied scientists not to go ahead with bomb developments. Heisenberg merely says: "We did not know a process for obtaining uranium 235 with the resources available under war-time conditions in Germany, in quantities worth mentioning." Nothing in the letter supports the view that the Germans were not working at it wholeheartedly with the limited means at their disposal.

If in fact Heisenberg did intend to ask Bohr to get the Allies to refrain from developing an atom bomb, the available data are equally capable of being interpreted as having a pro-Nazi motivation: knowing that the means required for making an atomic bomb exceeded available German capability, then the next best thing in a strictly military sense would be to strike a moral pose and con the Allies into not making the bomb either. Such moral poses were commonly used by the Nazis who said they operated their slaughter-houses for Jews in an effort to purify the race.

From page 104 on, the thesis is regarded as established. Moral disapproval of the Allied scientists is then developed throughout the rest of the book.

As one who was deeply involved in the American program, I can say that everyone was primarily motivated by the fear that in Hitler's hands atomic bombs could lead him to achieve his goal of world domination. Austria, Czechoslovakia, Yugoslavia, Poland, Russia, Denmark, Norway, Sweden, Holland, Belgium, France, and the aerial raids on England: who can forget the threat to civilization of those Nazi hordes equipped only with "diplomacy" and "conventional" weapons? What might they not have accomplished with atomic bombs a thousand times more powerful than the TNT blockbusters? In the given situation, the highest morality, as we saw it, demanded devotion to the defeat of that terrible enemy.

In the postwar period, most of the atomic scientists have given much of their time and energy to alerting their fellow-men to the catastrophic dangers for humanity involved in a third World War—in preparation for which the major powers are spending such vast sums in their insane race toward doom. For such moral services to mankind, many of them have suffered and will suffer much more than those Germans who now are constructing a legend that their very real collaboration with Hitler was only a pretense.

In a wider sense, the most wicked thing about this book is its specious singling out of the atomic scientists for moral condemnation. All war, all hatred, all strife of any kind, is immoral. All human beings who do not work actively for peace and justice and brotherhood among men are the guilty ones, and alas, they are many. And they are guilty if they work so delicately "for the sake of discretion and tact" that their efforts have no noticeable effect whatever.

It is unfortunate that no group of really competent historians has yet undertaken to write a thorough, critical history of the fateful events surrounding the development of atomic weapons and the social and political problems to which their development has given rise. Time is moving on, memories of the living are fading, many of the principals are already dead, so the task becomes increasingly difficult. Does it become a

proper subject for historical research only after it is too late to do it properly? Lacking such a careful job, many will have to rely on Jungk's book for one version of the exciting and important story. But—*caveat emptor.*

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Negroes and Medicine. Dietrich C. Reitzes. Published for the Commonwealth Fund by Harvard University Press, Cambridge, Mass., 1958. xxxi + 400 pp. $7.

This book is the result of a research project conducted under the auspices of the department of sociology of the University of Chicago, through a grant from the Rockefeller Foundation. Reitzes directed the project and edited the findings.

The study is a systematic one, divided into two parts. The first part analyzes the enrollment patterns of Negroes in the nation's medical schools and compares the performance of Negroes on the Medical College Aptitude Test with that of white students and of applicants who were rejected. It points out the undergraduate origin of Negroes in the medical schools and indicates the changing pattern toward integration in the study of medicine.

Part I presents evidence which reveals that Negroes compare unfavorably with white medical applicants in Medical College Aptitude Test scores; that the rejected applicants of predominantly white schools compare well with applicants accepted in medical colleges whose primary orientation is toward Negroes; and that Negroes who are graduates of predominantly white premedical colleges are more readily accepted by white medical colleges than are those applicants who are graduates of schools oriented primarily toward Negroes.

Moreover, the median scores of students accepted at Meharry Medical College on the regional support plan are generally lower than the median scores of noncompact students who succeed in gaining admission. Despite the lower scores, the Negroes admitted to white as well as to Negro medical schools usually complete their studies and qualify for practice. The scores on aptitude tests reflect cultural differences between the two groups which stem from dualism.

The study indicates that a larger number of Negroes are being admitted to integrated medical colleges than in the past, but that the population is increasing faster than the rate of admissions, so that the critical plight of Negroes with respect to medical services is not being alleviated.

Contributing the largest number of the students who are admitted to Meharry Medical College, and also heading the list of Negro colleges in terms of its contribution of Negro students to white medical schools, is the small college of Morehouse. It ranks third in the total number of graduates accepted for the study of medicine at Howard University. It would appear that the climate and emphasis at Morehouse College might well be the key to a more general remedial measure in correcting the critical shortages in medicine.

The second part of the book is concerned with patterns of behavior in sampled communities in regard to hospital practices for internships, residencies, and staff affiliations. It also samples practices in regard to integration in medical societies and relationships in the area of specialization in medicine. It indicates improvement in professional opportunities for Negroes in internships, residencies, and staff affiliations. At the lower level of medical training and practices, the barriers are not as great as they are at the upper levels.

In communities which lack approved quasi-integrated hospitals, Negroes have not qualified in large numbers for board specialties. Where these hospitals have been late in developing, as in Atlanta, status and lack of intern training opportunities have postponed, if they have not entirely blocked, improvement of the qualifications of the Negro doctor.

This book will serve as a useful source of data for observing patterns of changes affecting the study and practice of medicine in various types of communities as well as on a nationwide basis. It presents these data lucidly and authoritatively and is therefore a valuable reference for persons interested in the field of race relations.

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A Field Guide to Reptiles and Amphibians of Eastern North America. Roger Conant. Houghton Mifflin, Boston, 1958. xv + 365 pp. Illus. $3.95.

The appearance of another—the twelfth—in the "Peterson Field Guide Series" is always a happy event for outdoor naturalists. This one covers 505 species and subspecies, of which 320-odd are reptiles. All but one—the rare leatherback turtle—have been illustrated from life, with drawings made from photographs by Isabelle Hunt Conant. More than 400 of these are in color, also from life.

Since the use of color for identification of "herptiles" is made tricky by the ability of some of them to change color from minute to minute, and since the field guide is like others in the series in relying heavily upon illustrations, special care has been given to pointing out similar species. Forty pages of distribution maps will help, too, in locating the right name and corresponding information for a specimen in hand.

Conant shows particular concern with handling specimens in such a way as neither to hurt the "herptile" nor endanger the holder. Yet he realizes that most specimens will be identified at far closer range than any bird, and that many a field naturalist will wish to keep specimens alive in captivity for further observation. For these reasons he includes short sections on the capture and care of specimens and on the treatment of snake bite.

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Quantitative Plant Ecology. P. Grieg-Smith. Academic Press, New York; Butterworths, London, 1957. x + 198 pp. Illus. $6.

Ecologists are attempting to describe communities and organism-environment relationships in more quantitative terms in order to meet the demands of ecosystem analysis and to place more of ecological investigation on an experimental basis. This book is an up-to-date survey of problems encountered in the quantitative approaches to plant ecology. The discussions in the book will be of interest to all biologists concerned with organism-environment relationships, especially to those working with organisms in noncontrolled environments.

This book has a balance of viewpoints that keeps the discussion in terms that are meaningful to ecologists. Appreciation for the service role of mathematical tools is complemented by an awareness of the large number of variables and their complex relationships in all problems relating to communities of organisms. The author recognizes the need for the fullest possible knowledge of the biology of individual species, and also for continued use of empirical approaches and approximate methods in poorly understood areas of investigation. Although the discussion focuses on problems with plants, the author draws upon much of the pertinent work in animal ecology.

The survey begins with examination of quantitative descriptions of vegetation, problems of sampling, and compar-