Book Reviews

On Thermonuclear War. Herman Kahn. Princeton University Press, Princeton, N.J., 1960. xx + 651 pp. $10.

According to Herman Kahn, if deterrence is to be used to advance or maintain our position in a world of power politics, we must have the will to use the weapons if deterrence fails—that is, we must accept the position that thermonuclear war would not be annihilating, at least not over the next decade or so, and that, with careful planning, recovery from a nuclear attack is possible in a few years. Kahn argues that we must have the weapons needed to meet a variety of possible situations, ranging through bluffs, blackmail, and accidents to irrational behavior. That is, we must be able to (i) deter an attack by creating the fear of retaliation from a damaged Strategic Air Command or the fear of a preemptive strike by SAC following a tactical warning; (ii) deter provocative action by creating the fear of a premeditated first strike at the nation offering provocation; and (iii) deter provocative action by having the capability for counteraction which is expected to be so effective that the net effect of the "aggressor's" action would be a loss in his position. Necessary components of this posture include civil defense, a capability for limited war, a preattack mobilization base, and, hopefully, arms control.

The bulk of the book is devoted to by far the most detailed and lucid analysis yet presented of the kinds of weapons systems, mobilization bases, and postattack planning and resources required to meet situations which might involve military power. Even so, as Kahn is at pains to demonstrate, much more study is necessary before an evaluation can be made of the full implications of his position on such problems as the long-term biogenetic effects of radiation resulting from large attacks, the feasibility of blackmail techniques, the flexibility of the war plans in retaliation missions, and command and control. But the fundamental utility of his analysis rests on whether his thesis is valid: Kahn argues that thermonuclear war will not be annihilating (of social systems, if not all men) and, therefore, that if we are faced with "intolerable" or "outrageous" provocations we ought to be prepared to accept the social and material costs of recovering from a thermonuclear war rather than the costs of avoiding that war.

"Recovery" to near-normal prewar levels (as contrasted to politically, socially, and technologically primitive ways of life) depends crucially on the effective fulfillment of "seven optimistic assumptions: 1) favorable political environment, 2) immediate survival and patch-up, 3) maintenance of economic momentum, 4) specific bottlenecks alleviated, 5) 'bourgeois' virtues survive, 6) workable post-war standards adopted, and 7) neglected effects unimportant." However, in estimating the validity of these assumptions, Kahn does not apply the same careful analysis he used on hardware to the human condition in the postattack period. The considerable data available from history and the laboratory about the behavior of groups, individuals, and leaders under extreme threat, in the face of sudden disaster, or in ambiguous situations is ignored. Also ignored are the profound problems of establishing adequate, integrated leadership and command and control in a postattack society, for such a society may well be bereft of many layers of responsible, trained, civilian leaders. Nor does he discuss adequately the enormous problems of managing nationwide evacuations (historical examples are not analogous here), operating large fallout shelters during many days of occupancy, and training shelter-management cadres as well as insuring their presence in the shelters.

As a result of these oversights Kahn's statements about the behavior, values, and aspirations which could be expected to prevail under these disaster conditions are inadequate, incorrect, and glib to the extent that doubt is cast on the plausibility of his optimistic assumptions. It is also well worth noting that there is nothing in his analysis which gives reason to believe that recovery could be accomplished under democratic forms of government.

As to peacetime planning for postattack recovery, much could be done to accomplish the things necessary for recovery if sufficient research, planning, and implementation has been carried out, but it is very likely that this could be accomplished *only* through imposed or voluntarily accepted approximations of a garrison state. It seems clear, on the basis of several studies, that the required degree of peacetime integration and control of economic, political, institutional, and personal activities would very likely conflict with traditional concepts of the private and public rights and privileges of Americans.

Thus, Kahn's book is profoundly useful in four ways: (i) It should force any one who proposes to say anything about deterrence to stop talking vagaries and shibboleths. (ii) It should force those espousing Kahn-type weapons systems to recognize the crucial need for the same detailed study and analysis of people and leadership under ambiguous threat as that already given to thermonuclear hardware and tactics. (iii) Since Kahn's military approach is idealistic (it demands unstinting national commitment to logical behavior under all conditions), the book should make acceptable the study of other idealistic political or social approaches to the crisis. (iv) Since democratic values might well be lost in preparing for or in recovery from nuclear attack (and since the chances of their eventual revival are moot), the book should force a searching inquiry into the choice of means in preserving ends in a world of crises and political change everywhere.

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Talent and Education. E. Paul Torrance. University of Minnesota Press, Minneapolis, 1960. x + 210 pp. $4.50.

One of the 16 authors quotes Norbert Wiener's statement: "Let those who choose to carve a human soul . . . be sure that they have a worthy image after which to carve it, and let them know that power of molding an emerg-

ing intellect is a power of death as well as a power of life." Those who are engaged in the business of educating talented young persons are carving human souls; sometimes with skill, sometimes not; sometimes with substantial knowledge of what they are doing, sometimes without. For such persons, this volume, which consists of the papers presented at the 1958 Institute on Exceptional Children held by the University of Minnesota, provides a useful summary of information on the nature of human abilities, some of the psychometric approaches to the study of talent, crucial factors in the life histories of talented persons and in the development of scientists, some of the means by which schools attempt to give special treatment to exceptionally able students, and the treatment of individual differences in Russian schools. Also included are brief reports of several exploratory studies concerning bright students and their school and postschool careers.

The book is mostly synthesis and review with relatively little new information. An exception is Catherine Cox Miles' study of the life histories of 100 prominent Americans who died during the period 1936–1940 and the comparison of their early life histories with those of 300 geniuses who constituted the subjects of her earlier study. Choosing among the papers is partly a matter of personal interest. I liked best John E. Anderson's good review of the nature of human ability and Anne Roe's brief summary of studies that she and R. D. McCurdy conducted on the school and home influences that make a scientist.

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Oxford Regional Economic Atlas of the Middle East and North Africa. Economist Intelligence Unit. Oxford University Press, New York, 1960. viii + 56 pp. + 64 maps and gazetteer (15 pp.). Cloth, $10; paper, $5.25.

This atlas, the second of what promises to be an extremely useful series (intended eventually to cover the world), touches on many facets of the physical and economic-social phenomena characterizing the Middle East and North Africa. C. G. Smith of Oxford University served as geographical adviser, and the volume was prepared by the Economist Intelligence Unit (a research group of the British periodical *The Economist*) and the cartographic department of the Clarendon Press.

The scale of the maps varies; about half of the sheets presented are on a common base map of the entire area and are shown at a scale of 1:19 million (300 miles to the inch). The detailed regional sheets are shown on scales ranging from 1:10 million (176 miles to the inch) for the Sudan, Ethiopia, and Iran to 1:6 million (95 miles to the inch) and 1:4.25 million (67 miles to the inch) for the other countries. The maps lack a graphic scale with distances actually drawn on the map and the reader must carry his own ruler if he is to determine distances. The regional maps are easily read. The elevation tints are unobstrusive and consist of warm shades of greens and browns with soft gradation from one to another. There is coverage of the geology which gives the geological period—Cretaceous, Jurasic, and so forth—of the surface rocks with short notes about the characteristic relief developed in each case. The treatment is as detailed as the scale of 1:19 million will allow. Relief is shown at the same scale. Here a plastic relief effect is achieved by the now common device of imposing mountain or hill shadows on the elevation tints. This gives a gross indication of the relief and is useful as a heuristic technique, but there is a serious objection. The map gives an impression of roundness to some extremely jagged landscapes. I cite the arid zone scarp of the north side of the Qattâra depression in Egypt, the walls of the great rift as it bisects Ethiopia, and the rough moonlike landscapes of the Hadramout and Yemen coasts of southern Arabia. Relief can be symbolized more realistically, though less colorfully, by the black-and-white diagrammatic technique developed by Irwin Raisz.

The soil and vegetation maps are generally well handled, though the categories used in describing the vegetation of the more tropical areas are not sufficiently specific. The sheets covering rainfall and water balance are the most sophisticated I have seen in a general atlas. Annual rainfall is shown, as well as rainfall temperature diagrams for 19 representative stations. The diagrams show the usual average monthly progression of rainfall and temperature against a background of the actual rainfall received each month for the past 25 years. This shows the dispersion which, in much of the dry tropics, is so great that averages have little meaning. A further sheet shows irrigated areas and their proposed extensions, oases, and dams. This map has water balance diagrams (after C. W. Thornthwaite) for the same stations covered by the rainfall-temperature diagrams. The water balance diagrams are explained clearly and give some understanding of growing seasons and their lack. These two sheets contribute to the reader's understanding of the critical water problem in North Africa and the Middle East. There is a detailed strip map, with monthly river flow diagrams, of the Nile Valley and a similar map for the Tigris and Euphrates Valley.

There are further maps dealing with agriculture, minerals, industry, transport, population density, state of topographic mapping, and a historical survey.

The degree of detail on the agricultural maps varies with the available data. The Magreb, Egypt, Iraq, the Levant, and Turkey are covered by dot maps showing principal crops. Unfortunately, several of these maps are hardly readable, because they attempt to show on one sheet as many as three crops having largely overlapping distributions. This is a gross violation of the grammar of economic map making. There is a useful and less detailed sheet for the Sudan and only a listing of commodity production totals (from the Food and Agricultural Organization of the U.N.) for Iran, Ethiopia, Somalia, and the countries of the Arabian Peninsula.

There are maps showing oil production and producing fields as of 1957 and oil concessions as of 1958; a detailed map shows oil production in the Persian Gulf as of 1957. Over 20 industries are treated on five sheets in sufficient detail to bring out the meaningful regional differences. Air, rail, and water transport are handled on separate sheets. There is a detailed sheet of the Suez Canal and a flow diagram indicating the relationship of the canal to world shipping.

Population is treated by a dot map (one dot per 20,000 people) with names of peoples and principal tribes (Kurds, Nuer, and so forth) listed in their home areas. Urban areas are also indicated.

There is a final map which attempts to give a historical summary. For a land with the complex cultural background of the Middle East and North Africa, one map cannot be adequate. An entire atlas, *A Historical Atlas of the Muslim Peoples* [Roolvink, Cambridge Univer-