

could command a reviewer's assent on every point of interpretation. Taken as a whole, *Empire of Knowledge* is an outstanding work, admirably researched and carefully balanced. Anyone interested in Soviet science can read it with great profit.

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A Non-nuclear Agenda

Weapons and Hope. FREEMAN DYSON. Harper and Row, New York, 1984. viii, 341 pp. \$17.95. A Cornelia and Michael Bessie Book.

The author's purpose in writing this book is twofold. He wishes to offer some new ideas for overcoming the risk of nuclear annihilation, and, unlike many others committed to this task, he intends to pursue his goal by trying to bridge the gap between those who "look on the peace movement as a collection of ignorant people meddling in a business they do not understand" and those who "look on the military establishment as a collection of misguided people protected by bureaucratic formality from all contact with human realities." He accomplishes both tasks with impressive results, although his message sometimes tends to be concealed in a variety of personal reminiscences, family tales, metaphoric extemporizing, and reflections on the course of history in general.

Dyson's basic message is that the world must move away from nuclear weaponry toward defensive and non-nuclear weaponry. This implies arousing humanity against weapons of mass murder "as we roused mankind against the institution of slavery a hundred and fifty years ago," negotiating international agreements, first to reduce deployments of nuclear weapons and later to eliminate them, and pursuing further the development of non-nuclear defensive systems to enhance the stability of a non-nuclear world.

This message may seem simple, yet Dyson does not evolve and justify it in a simple way. In fact, almost the entire book is devoted to a careful examination of alternatives and a cautious evaluation of all the complexities surrounding the design for the abolition of nuclear weapons. Dyson elucidates every aspect of the subject with insights that combine first-rate expert knowledge and refreshingly unorthodox approaches. For instance, when discussing antiballistic mis-

sile systems, Dyson sums up the familiar arguments against ABM and then presents a number of rebuttals of these arguments. After thoughtful discussion he finally reaches the conclusion that his verdict on ABM is "neither guilty nor innocent." He even recommends the development of a non-nuclear ABM that in a defense-dominated world may be a good tool because in such a context ABM becomes more and more stabilizing as one moves further toward the reduction and elimination of offensive forces. Likewise, the large-scale construction of shelters will be stabilizing in a world where the principle of stable deterrence has been replaced by a defensively oriented equilibrium. As far as verification is concerned, Dyson argues against the doctrine holding unverifiable agreements to be worthless—all depends on circumstances, he says. He points to the 1975 convention banning biological weapons; although compliance with the ban is clearly unverifiable, the convention is valuable because it imposes an important constraint—"without the convention, the friends of the victims would not even have legal grounds for protest and inquiry."

This judgment is illustrative of the attitude of pragmatism and unbiased hope that characterizes the book. At one point the author drily remarks: "Our choice is not between imperfect agreements and perfect arms control agreements; it is between imperfect agreements and none at all." Examining his key proposal for a non-nuclear world with the same passion for sober-mindedness and optimism, he is aware of the innumerable requirements and consequences implied by a radical shift from the present system of assured destruction to a non-nuclear defensive system. Some of the requirements and consequences may still need further elaboration, particularly those referring to the political situation in Europe. One may agree with Dyson that the development of precision-guided munitions and of dispersed mobile forces capable of destroying tanks and airplanes offers a realistic substitute for tactical nuclear weapons in the defense of Europe against invasion. But still a concerned European might have some doubts about whether a potential aggressor might not find this kind of defense a calculable and possibly tolerable risk. And he or she would hardly feel comfortable with regard to the non-violent use of force, that is, the potential for power projection, subtle blackmail, and "Finlandization" in peacetime.

Yet such second thoughts merely show how stimulating Dyson's argu-

ments are. They offer an enormous number of new and creative ways of looking at the world's most burning problem. No doubt, this book will have an impact.

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Creativity

The Social Psychology of Creativity. TERESA M. AMABILE. Springer-Verlag, New York, 1983. xvi, 245 pp. \$26.90. Springer Series in Social Psychology.

Most of those who study creativity focus on individual performance. They try to figure out how and why some people are able to do things in ways that are more original than what people are generally capable of doing. These researchers take a naturalistic approach—they assume that an original contribution is caused by some exceptional quality within the person who makes it and postulate the existence of creativity, a cognitive process.

Others have pointed out that there is no compelling reason for postulating any difference between a creative mental process and one that is not, or between a person who is creative and one who is not. These researchers take an attributional approach to the study of creativity—they try to understand under what conditions certain works will be deemed creative, by whom, and for what reasons.

The epistemological assumptions of Amabile's monograph are naturalistic, though her methodology favors a position intermediate between the naturalistic and the attributional camps. Amabile recognizes that "social and environmental factors seem to play a crucial role in creative performance" and that "there has been a concentration on the creative person, to the exclusion of 'creative situations'—i.e. circumstances conducive to creativity" (p. 5), but she does not question whether performances and persons are creative independent of social consensus. This reification of the phenomenon under study makes the conceptual foundation of the volume somewhat shallow, although not unusually so in a field that is all too ready to take an unquestioning stance toward its subject matter.

Amabile's most significant theoretical contribution is her emphasis on the close relationship between intrinsic motivation and what comes to be known as "cre-