

## Two Prescriptions for a Sick World

Is the driving motive in international relations today reciprocal fear?

Robert Gilpin

At the risk of being labeled a Neanderthal—a term that Charles Osgood freely applies to those who disagree with his prescription for the relief of the world's nuclear ills—I must take issue with Osgood's **An Alternative to War or Surrender** (University of Illinois Press, Urbana, 1962. 183 pp. Paper, \$1.45) and, to a lesser extent, with a companion volume by Ralph Lapp, **Kill and Overkill: The Strategy of Annihilation** (Basic Books, New York, 1962. 197 pp. \$4.95).

Osgood, a psychologist, and Lapp, a physicist, complement each other well. Through an analysis of the psychodynamics of the Cold War and the nuclear arms race, Osgood propounds an elaborately designed program for resolving the East-West conflict and achieving total disarmament. Lapp, on the other hand, begins with a discussion of the technological dynamics of the nuclear arms race and moves to concurrence with one of Osgood's major conclusions: that the United States should "retain only the minimum nuclear capacity required for sufficient deterrence" as a basis for eventual total disarmament.

With the search of these writers for various ways, whether psychological or technical, to make this world a more secure place to live, one can hardly disagree. Each of them contributes many thoughtful suggestions worthy of careful consideration. For example, Lapp's criticism that we ought not to have placed hardened missile sites near our major cities is a point well taken. Osgood's advice that we should learn

to see ourselves as others see us is wise advice which the United States too seldom heeds.

Regrettably, however, the claim put forth by each author that he has found the way out of the labyrinth of the nuclear arms race, and the route by which lasting peace may be secured, is, in my opinion, unconvincing. For though they each write as masters of their own fields of specialization and thereby make contributions to an understanding of psychological and technical factors, they neglect what to me are the crucial political elements that generate the Cold War. Moreover, Osgood is guilty of one of the most serious of Neanderthal traits: the "striving to force a complicated world into . . . [an] oversimplified mold" (p. 27). Lapp, for his part, makes positive assertions about the course of technological advance which the history of the arms race gives us some cause to question.

### Two Cycles

Osgood's thesis is that, although both the United States and the Soviet Union desire to end the Cold War and the nuclear arms race, they are unable to do so because of the atmosphere of distrust and tension. "The driving motive in international relations today," he writes, "is *reciprocal fear*. . . ." As a consequence, rational thinking about ways to break the vicious cycle of armament breeding insecurity and insecurity breeding armament is inhibited. Even when East and West negotiate, he reasons, a mutual distrust prevents the establishment of a genuine "give and take" situation:

*"Negotiated agreements require commitments from both sides prior to any action by either, and under the conditions of cold war thinking commitments of any significance seem most unlikely; as long as both sides remain chained to the requirement of prior commitment from the other, neither is able to take the initiative in moving toward a more peaceful world"* (p. 84. His italics).

Therefore, unless one side or the other takes the initiative in breaking the armament-insecurity cycle, mankind remains doomed to destruction through thermonuclear war.

A number of other writers have made similar diagnoses and have proposed somewhat similar solutions, but Osgood's is the most thorough statement of a plan of action. He calls his program to break the armament-distrust cycle "GRIT: Graduated Reciprocation in Tension-reduction" (pp. 85 and 86). By this, he means that the United States ought to take limited, low-risk steps which would establish our sincere desire for peace and thereby reduce the tension level. As such measures were taken by the United States and reciprocated by the Russians, an atmosphere of mutual confidence would be created which would be conducive to rational thinking about ways to disarm. In effect, Osgood would have the United States substitute a disarmament-mutual trust cycle for the present armament-insecurity cycle. At the least, he reasons, we have nothing to lose and everything to gain in testing Soviet claims that they sincerely desire world peace.

Osgood's book has an impressive logic, and one is easily carried along as he details a hypothetical example of GRIT which begins with an exchange of medical information on the American man-in-space program and eventually leads to the neutralization of Germany and the seating of Communist China in the United Nations. As in all logical demonstrations, however, the truth-value of the conclusion rests ultimately upon the validity of the premises. And it is here that Osgood fails to be convincing.

The validity of GRIT as a policy rests ultimately upon the nature of the Cold War: What is its cause? What is at stake for East and West? For Osgood, the Cold War is essentially a psychological state induced by the tension of the nuclear arms race. From this perspective the Berlin impasse is

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simply the result of an irrational compulsion "to play 'chicken'" with a threatening situation—a common occurrence in tension-ridden situations (p. 22). It is such a state of mind, he contends, which prevents solutions being found to the arms race, to the problem of divided Germany, and to the hostility of Communist China. Reduce tensions, stimulate rational thinking, and then a way to solve these threatening problems will be found.

### A Political Pathogen

That there is much irrationalism, tension, and distrust abroad in the world today is without question. Any measures which replace passion with reason are to be welcomed. Yet this world state of mind and the nuclear arms race itself are in large measure but symptoms of an underlying pathogen: the political conflicts that divide East and West. One does not even have to posit a Soviet design to take over the world to establish the point that the Cold War is generated by the opposed interests of East and West in Central Europe, Southeast Asia, and the Far East.

The tension and dangers of the Cold War in fact constitute the price we pay for the unwillingness of either side to resort to hot war to resolve these conflicts of diametrically opposed interests. To safeguard their respective interests, each side arms and contributes to the spiraling arms race which neither side wants but which neither side knows how to stop without sacrificing its threatened interests.

Osgood appears to accept Erich Fromm's reasoning (*May Man Prevail?*, 1962) that the Soviet Union does not really threaten the West. Communist talk about world domination and "burying the West" is taken to be merely ritualistic. In a world of thermonuclear weapons, the Russians, like Americans, seek only their own security. They are as frightened of the West as the West is of them. GRIT is a plan to demonstrate that Soviet fears of the West are baseless and to give the Russians an opportunity to remove Western fears of the Soviet Union.

Even if one were to grant the validity of Osgood's point that the Soviets seek only national security, the questions of paramount importance are these: Does the Soviet—or the Communist Chinese—definition of the re-

quirements of their security coincide or conflict with Western security requirements? Can the West satisfy Soviet security demands without sacrificing its own security? Unless such questions as these can be answered in specific terms for specific problems, it is meaningless to argue that East-West compromise is possible because both sides desire only national security.

Where East-West interests have coincided, as occurred in the mid-1950's with respect to Austria, an accommodation has been worked out. Unfortunately such a happy situation has yet to develop with respect to major issues such as Germany, and there is little evidence to suggest that a satisfactory compromise of East-West differences in Central Europe will be at all possible for many years to come.

Therefore when he visualizes a neutralized, unified Germany as the culmination of GRIT, Osgood commits a Neanderthalism that he attributes to those whom he criticizes: projecting one's own desires onto others. Neither the Germans themselves—East or West—the Western powers, nor the Russians desire a unified, neutral Germany, *except* on their own terms. Consider, for example, the Soviet perspective and one understands why they have sufficient reason to fear unification except under conditions that will take all Germany into the Communist realm. It was a Germany neutralized by the Versailles Treaty which spawned Hitler and which, in Soviet eyes, the West sought to turn against Russia. Today a neutral, united, non-Communist Germany would have claims against former German territory now held by Communist Poland; such a Germany would furthermore take on the hue of its larger part—capitalist West Germany—and would bring capitalism to the borders of uneasy satellites. And all this would happen following the confession of Communist failure in East Germany and the abandonment of Russia's East German Communist allies. Having already put down a revolution in Hungary, witnessed unrest in Poland, and been subjected to Communist Chinese attacks for abandoning the Revolution, the Russians do not appear very much interested in the idea of a rollback of Communism in East Germany.

Similarly, the West has little to gain by releasing West Germany from its NATO and Common Market obligations. Even if one discounts the effect

of German withdrawal from these institutions as the Soviet Union demands, the prospect of a Germany pursuing an independent foreign policy is not a comforting one. It is such a Germany that has plagued European politics since the middle of the 19th century and contributed so greatly to two world wars. In fact, Osgood's suggestion that the United States, France, and Great Britain propose a unified, neutral Germany *over* German protests is almost calculated to produce an unstable situation in Central Europe.

### Isolationism Today

This willingness of Osgood to have the United States renege on a major foreign policy commitment exemplifies what is most disturbing in his approach. Indeed it is possible to discover a tendency in his book toward isolationism. Writing out of frustration with a world gone mad, he would have us disengage ourselves from our overseas responsibilities and their dangers. His view that we can somehow escape from the world of power politics by turning our problems over to the United Nations is but wishful thinking.

The formulation of GRIT itself has strong elements of "go it alone" and withdrawal. Nowhere, for example, in his 15 criteria for evaluating the way in which GRIT meets national security requirements does Osgood mention anything about our allies and their interests. He does not, for example, specify the need for consultation with an ally before the United States initiates a tension-reducing move that may sacrifice an ally's vital interests. In fact, Osgood's disarmament plan appears to suggest abandonment of allies and overseas interests in order to lessen the risk of nuclear attack on the United States. In proposing that we disarm our conventional forces, do away with alliances, and keep only a sufficient nuclear capability to protect the continental United States from attack Osgood writes: "Our really vital interests are our biological survival and the preservation of our way of life, and our deterrent capacity provides at least temporary protection of the former, if not the latter" (p. 159). Parenthetically, it is worthy of note that the belief that such thinking as Osgood's might one day characterize an American President deliberating whether to risk the nuclear destruction of American cities

in order to deter Soviet moves in Western Europe is the major driving power behind France's effort to develop an independent nuclear capability.

Osgood will not accept this assessment of his position. His premises do not allow him to grant that until the underlying political issues which divide East and West, and those that divide all nations for that matter, are resolved, tension, armament, and the curse of war will characterize international society.

This does not necessarily mean, however, that mankind is condemned to die by thermonuclear war, although mankind may be condemned to live forever under a nuclear sword of Damocles. With the problem of sheathing that sword in mind, let us turn to a consideration of Ralph Lapp's *Kill and Overkill*.

One merit of Lapp's book is that it gives the reader an excellent though sketchy history of the nuclear arms race. Many sections are repetitive of his earlier works, but this detracts little from the value of this presentation. His treatment of missile development is especially valuable, and he brings together a number of interesting insights, such as the fact that Soviet development of a large booster for their missile force actually placed them behind in the race to make missile forces invulnerable. His discussion of nuclear weapons technology was of especial interest to this nonscientist, though it is doubtful that many scientists would be enlightened by it.

### Matters of Definition

Like Osgood, Lapp argues for the creation of only the minimum nuclear capacity required for sufficient deterrence. Unfortunately, also like Osgood, he fails to specify what this means in terms of the size of the deterrent force and what Soviet action is to be deterred—that is, nuclear attack on the continental United States, massive conventional attack on Western Europe, or a limited threat to the Berlin lifeline. Without a clear indication of what Lapp has in mind, therefore, it is hardly possible to evaluate his position, even though one were to concur with his idea that the United States ought to put its deterrent to sea.

The most interesting feature of the book for me is that Lapp verbalizes the views of many scientists presently ad-

vising national leadership with respect to potential developments in weapons technology and their implications for national security policy: (i) the virtually unchallengeable invulnerability of the Polaris deterrent system; (ii) the impossibility of a missile defense; (iii) the "fantasy" of space warfare; and (iv) the infeasibility of limited nuclear warfare.

Perhaps Lapp and those influential scientific advisers who share these views are correct; indeed one hopes that the future holds respite from the spiraling advance in new forms of deadly weaponry. Yet the history of the nuclear arms race provides little foundation for the assertiveness with which Lapp disposes of potential technological advances that might threaten international and American security. One must also hope therefore that, unlike Lapp, those scientists responsible for advising national leadership on weaponry will maintain an open mind on these matters.

The historical record of American scientists, including that of Lapp himself, in prophesying the course of technological advance does not foster confidence in Lapp's predictions. It was Lapp, for example, who in 1953 reported in a national magazine the consensus of "knowledgeable" scientists that an intercontinental ballistic missile was a "distant threat still far beyond the technical horizon" ("We can smash the Red A-bombers," with Stewart Alsop, *Saturday Evening Post*, 21 March 1953, p. 86). Yet, as he tells us in *Kill and Overkill* (p. 68), it was at this very time that John von Neumann and other scientists concluded that the thermonuclear breakthrough of November 1952 brought the ICBM into the realm of possibility and recommended a crash program to the U.S. Air Force. Similarly, scientists today (in the United States or in the Soviet Union) who are working on laser technology, may be refuting Lapp's contention that General Curtis LeMay's talk about "death rays" is but "comic strip"; perhaps, and hopefully, it is such, but can the possibility be foreclosed so easily?

Lapp, like Osgood, writes to jar, to stimulate, to prod the reader to action. In seeking to establish an urgent need for reasonable men to right a world gone wrong, both writers engage in many an exaggeration and oversimplification. Perhaps this is necessary, given the enormity of the problem posed

by nuclear warfare, yet there are two charges made in each book which ought not to be left unquestioned. The first is that American foreign policy has become the captive of a vast war machine. The second is the related charge that scientists and other intellectuals who might be expected to challenge this industrial-military colossus have been "stunned into timid silence," have been "bought off," or, else, simply have their "heads in the sand."

That the military have a powerful place in American life today is without question, but so do senators, natural scientists, and the molders of public opinion. The controversies over the RS70, Skybolt, and the B-52 do not suggest, moreover, that the President and the civilian leaders in the Department of Defense have blindly followed their military advisers. In fact, there are rumors of revolt within the military because civilian experts around the Secretary of Defense have so frequently substituted their judgment for that of the military on matters where the military have traditionally been supreme. That the vast military complex generated by the Cold War constitutes a *potential* danger to our democratic society is freely acknowledged; that this threat has been made actual has not yet been proven by Osgood, Lapp, or Fred Cook (*The Warfare State*, 1962).

If, on the other hand, the criticism is meant to imply a too frequent dominance of military over political and other considerations in the making of foreign policy, then the point is well taken. The United States in the postwar period has all too often sacrificed desired political goals in its pursuit of the most efficient military posture. Eisenhower's policy of massive retaliation is the most noteworthy example of this; currently there is a danger that the Kennedy Administration may sacrifice Western political cohesion in its pursuit of unitary "command and control" of the Western deterrent. But this is too complex and speculative to be pursued here.

### Social Responsibility

How valid is the charge that American scientists and other intellectuals have neglected their responsibility to assist in the search for peace? The answer depends on the perspective one takes. From the perspective of a comparison between what is being done

here and abroad to explore ways to lasting peace, American intellectuals and their government come off quite well. In no other land is an equivalent effort being made to explore the psychological, technical, and political methods by which we can reduce the possibility of thermonuclear war. In fact, the literature has grown so extensive and sophisticated that few but full-time professionals can keep abreast of it. Furthermore, many natural scientists and strategic specialists in the Pentagon, RAND-type organizations, the Arms Control Agency, and the White House are drawing upon this literature in the formulation of national policy. The movement toward an invulnerable deterrent, the attempt to achieve a nuclear test ban, and the announced decision to spare Soviet cities in the event thermonuclear war should occur are in large part attributable to the energies of these experts. Along with Osgood and Lapp, they too have been seeking alternatives to war or surrender.

Yet from the perspective of the continued precarious nature of the world situation, this effort is rightly judged inadequate. We have only begun to comprehend and meet the challenge posed by the continued advance of science and technology. And when we truly grasp the implications for international society, of the 20th-century scientific revolution, even the prescriptions of Osgood and Lapp may appear mild when set alongside the magnitude of the problem.

## X-ray Diffraction

**Diffuse X-ray Reflections from Crystals.** W. A. Wooster. Oxford University Press, New York, 1962. xi + 200 pp. Illus. \$5.60.

The diffraction of x-rays from lattices has been under ever greater study during the past 50 years. The first years were concerned with the deduction of repeating atomic arrangements in, hopefully, nearly perfect crystalline materials. Occasional early notice was made of unusual diffuse effects on films and other detecting devices, and these observations have led to extensive studies of the diffuse scattering associated with the following effects: temperature motion of atoms, including the rotation, translation, and di-

lation of molecules; the disturbance of lattice perfection by substituting different atomic species (or order-disorder phenomena); the distortion of the lattice caused by atom substitution, vacancies, dislocations, and other imperfections; stacking faults and layering phenomena; precipitation phenomena; and large scale distortion of the lattice (like that associated with cold-working).

A book that covered this area would be of great value to students of the field and to many research workers who are interested in details of the phenomena which give rise to diffuse x-ray scattering.

Wooster has attempted in this book to remove the difficult-appearing relationship between a diffuse scattering effect and the lattice disturbance that causes it by utilizing the optical diffractometer and by a minimal use of mathematics. The optical diffractometer presents a simulated image of the expected diffuse scattering from two-dimensional arrays of holes which represent scattering centers and which have the desired type of imperfections or periodic distortions. The major portion of the book then gives, in complete experimental detail, the interpretation of thermal diffuse scattering, mostly as it is observed by film techniques. Examples of the determination of elastic constants and the spectra of elastic vibrations are given. The rest of the text consists of review chapters on diffuse effects from several structural imperfections—layer types, the effects of twinning in diamond, age-hardening, and order-disorder—and from molecular crystals.

To limit the subject matter, Wooster omitted consideration of diffuse scattering from gases, liquids, and amorphous solids and by the techniques of electron and neutron diffraction.

The many tables, charts, and corrective techniques for thermal, diffuse, scattering studies as well as the optical simulation of diffuse effects will be useful to young research students, the book's intended audience. The review chapters will aid those interested in further investigation of these interesting phenomena. But the content does not appear to have a sufficiently detailed theoretical basis nor to provide sufficient analysis of many of the phenomena to satisfy the advanced research worker or the technologist.

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## Sarton's Essays

**Sarton on the History of Science.** Dorothy Stimson, Ed. Harvard University Press, Cambridge, Mass., 1962. xvi + 383 pp. \$10.

"The history of science should not be a refugium peccatorum; it is on the contrary a discipline which should attract the attention and the devotion of bold and adventurous spirits, hard workers and courageous pioneers" (p. 49). So spoke the late George Sarton in one of the most attractive essays in this selective reprinting of his multifarious writings. It reminds us, however inadequately—for Sarton was truly humble—of his own courageousness in the face of very real difficulties and deficiencies. It also serves to recall a memorable sentence written by his wise and perceptive daughter, in a recent article about George Sarton. May Sarton observed that her father was, "A man who moved with extraordinary freedom over the ages and the continents within a daily orbit as undeviating as that of any planet" [*The Texas Quarterly*, Autumn (1962)]. The singular truth of this statement will be apparent to the readers of these essays which range from Avicenna and Maimonides to Leonardo da Vinci and on to Sarton's (now quite famous) "Notes on the reviewing of learned books." How better could one describe this humane scholar whose principal mission was and always remained the demonstration of the unity of knowledge?

It is entirely fitting that Dorothy Stimson should select and edit this all too brief collection of essays. The selecting must necessarily have been most difficult. Although we are informed that most of the essays were chosen from a list of those that Sarton himself considered suitable for republication, the fact remains that his writings were so diverse in subject matter, so specialized at one moment and at the very next so universally applicable to scholarship in general, at once erudite (but not pedantic), yet at the next turn almost sentimental, that any brief selection inevitably fails to portray the full man and his accomplishments.

At the same time this selection (which has been skillfully handled) may serve to effect the most desirable end: to wit, the publication of Sarton's *Opera Omnia*. Nothing short of such a project can ever do justice to his immense scholarship.