PIETIES, ARMS POLICY, AND THE SCIENTIST-POLITICIAN

(A Review of Jerome Wiesner's Where Science and Politics Meet)

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This collection of somewhat dated essays and speeches is less important for its substance than for the prominence of its author. Especially during the Kennedy years, Jerome Wiesner was a lively and controversial figure on the Washington scene. His concept of the role that the scientist should play was that of the fighter for desirable policies rather than the detached purveyor of scientific expertise. His office became a point of introduction and lobbying for specific policy proposals, which happened to enjoy wide support in the scientific community. Such activity, of course, is not "science" but policy advocacy. Wiesner tends to cloak such advocacy under the heading of "science policy," though to a greater degree than some of his professional colleagues, he does recognize that one's own policy preferences are not coincident with the metaphysical demands of SCIENCE. The impact on U.S. policy of Wiesner's style of operation has been far from negligible. He was a major force behind the Partial Test Ban and the Arms Control and Disarmament Agency. He pressed for increased public support for scientific and technical activities and for foreign assistance. In some respects, his influence on military policy itself may have been beneficial. Along with others he pressed for a reduction in the vulnerability of U.S. retaliatory forces and for command and control arrangements which may have contributed to a reduced risk of nuclear accidents. More debatably, he resisted

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efforts to preserve the strategic superiority of the United States or to push ahead with programs for civil or ballistic missile defense.

An initial verdict on Wiesner's activities depends in large measure on whether one accepts his values and assumptions. Whatever that verdict, it is appropriate that his contributions as a public figure be fully acknowledged. In a sense Where Science and Politics Meet represents an attempt at restatement and justification of Wiesner's attitudes and actions while in office. Yet, the book itself, judged on its own merits, is a disappointment. The title itself is misleading. If Dr. Wiesner has developed any explicit views on the connection between science and politics, he fails to let the reader in on the secret. The dimensions and framework of science policy are not considered and science itself or its role are hardly mentioned. This is a pity. It would be both novel and fruitful to have a clear exposition of the belief that the respective demands of science and of politics are not consistent, and that in a political environment the scientist should abandon a narrow role and become, like everyone else, a battler for policies he considers beneficial. This is what scientists in practice do -- and it can be argued that scientists who try to remain "pure" are quite ineffectual. But there is no explicit formulation of this view or any other view. Instead, the reader is left to infer from its content that the role of politics is to provide scientists and technologists with whatever resources they desire, while the latter provide politics with comprehensive plans for disarmament and for stimulating rapid progress in the less-developed world.

A little more than half the book is given over to very brief occasional papers, touching so lightly on so many topics that detailed analysis of any of them is precluded. The first paper is a standard tribute to the late President, exceptional only in that the reader may be left with the embarrassed feeling that he has too vividly experienced the full implication of La Rochefoucauld's aphorism that the love of princes is but another form of self-love. The second paper is a campaign speech in behalf of President Johnson replete with
the distortion and hyperbole that characterizes that particular art-
form. Several convention addresses follow under such cloying titles
as "Living With Science" and "Science in the Affluent Society" proving
that in this age science can come down into the marketplace and
display the Madison Avenue touch. The remainder consists largely of
congressional testimony in support of various programs. The dominant
themes with numerous variations are the following: (1) Science is
Good; (2) Progress is Good; (3) Money is Good for Science; (4) Science
is Good for Peace; (5) Peace is Good for Science; (6) Money, Science,
Peace, and Progress are Good for Impoverished Nations. Such banalities
are the standard fare of political discussion and advocacy. Withdrawn
from the cruel world of political choice, one can hardly disagree.
Yet, since such public documents are rarely republished, the question
does arise: why republish these? Politicians recognize them for what
they are: transitory exhortations designed to generate enthusiasm or
support. Academics normally would refrain from publication since such
papers are considered too intellectually thin, too barren of detail,
too political, too biased to enhance one's reputation in the scholarly
community.

The present volume lends force to such scholarly inhibitions.
In order to buttress the case for public support for science, for
example, Dr. Wiesner develops a version of Galbraithian economics that
Professor Galbraith, iconoclast though he may be, would scarcely
recognize: "modern machinery and automation had made it possible to
produce all of the consumer goods which the American people would
ever want." Galbraith's position is not that consumer demand is on
the point of satiation, but rather that the relative benefits of
public goods are much greater. The fiscal policies of both the Kennedy
and Johnson Administrations have been based, incidentally, on a propo-
sition directly contrary to that of Dr. Wiesner -- that consumer demand,
released by tax reduction, is indefinitely expandable and can be
counted on to push the economy to higher levels of activity. So far,
the evidence seems to support the Council of Economic Advisors and
not Dr. Wiesner. No matter how deep rooted Dr. Wies
conviction that ours is a "society where scarcity need not exist,"
the repeated references in the book itself to shortages, inadequacies
(water, education, trained personnel, research support, brain power,
etc.) seem to suggest the contrary. And the neglect amid all the pleas
for money of any real grappling with allocation, priorities, or the
cruelties of budgetary decisions seems to indicate the continued
relevancy of the traditional economic calculus.

In such passages as: "In reviewing the political scene, President
Kennedy once observed that there are cycles in the affairs of men,"
Wiesner reveals what can most charitably be described as cultural
impoverishment. Contrary to Dr. Wiesner's impression, this was neither
a fresh nor original observation on the part of the late President
nor is it likely that Kennedy himself, whose undergraduate coursework
had been rich in such time-honored themes, would have shared Dr. Wiesner's
delight in its novelty. Yet, such lapses are suggestive of both the
tone and the value of this section of the book: at best, adequate,
if transitory, political literature; at worst, triviality. It is a
kind of smorgasbord -- which manages at the same time to be both bland
and indigestible.

II.

After the thinness of the first half, one turns with a sense of
relief to the relatively solid fare of the last section, which is
concerned with arms control. Whatever the defects, and they are numer-
ous, here at least is something one can analyze. Not only are the
subjects close to Dr. Wiesner's heart, but he has spent many hours
developing the substance. Quite properly Dr. Wiesner does identify
the risks of nuclear engagement as the paramount problem of the age.
Doubts that arise bear on his proposed solution rather than his con-
cern. Quite properly, again, Wiesner perceives that for the present
fear is a major driving force behind Soviet as well as American policy.
But identifying "the lack of mutual confidence" as a problem does not
imply that policy questions can be readily eliminated by our deciding
to put aside our nagging fears and face the future with confidence and trust. Few would deny that concern for security rests upon feelings of insecurity, but such feelings may well be based upon something more deep-seated than an unfavorable psychological atmosphere.

These brief remarks provide an introduction to the underlying theology. Theology is the correct term here, for Wiesner's beliefs not only rest on faith but provide a theodicy, standards of good and evil, and the means to salvation. Self-reinforcing mutual suspicion, it is argued, has led to an arms race variously described as violent or accelerating. Yet, clearly it is to the joint interest of both sides that they cease augmenting the stock of expensive and destabilizing weaponry. A breakthrough has been impeded by a "serious communications block." Sad to relate, "there has been a reluctance by all parties to consider that proposals are put forward in good faith." Western experts are paralyzed by a "fear of Soviet duplicity" (this statement was written prior to President Kennedy's pungent assertions regarding Soviet behavior at the time of the Cuban missile crisis). Attempts to achieve arms control have foundered because "proposals, no matter how promising, always will be evaluated in a negative state of mind born of fear." There is no hint that there is any serious basis for mistrust, save one dark reference to "Stalinist, militarist groups...who generally advocate militant aggressive foreign policies" and who, it is asserted, may have contributed to Khrushchev's overthrow. (Presumably if so sinister a group has that much influence, some caution on the U.S. side seems understandable.) Nowhere is it indicated that one man's "negativism" may be another man's prudence -- or that a "utopian optimism born of hope" might prove even more detrimental than the negative state of mind born of fear. Yet, as we shall see presently, Wiesner's own handling of the state of military technology can only be interpreted in terms of wishful thinking.

Concern about the instability of modern armaments ought not overflow into melodramatic exaggerations of the arms problem. Whether the arms race has accelerated or become violent is a subject that can be studied in some detail. The Eisenhower Administration in rejecting
the recommendations of the Gaither Committee (of which Dr. Wiesner was Staff Director) may have been negligent, as its critics have maintained, but can hardly be accused of wholehearted participation in the arms race. Moreover, since Mr. McNamara became Defense Secretary, the number of delivery vehicles in the U.S. arsenal has remained virtually constant. With the phasing-out of early-generation missiles and the last B-47s the amount of deliverable megatonnage in the total force (not the "alert" force) will have decreased by approximately 50 per cent. Looking at the very same data, McNamara's right-wing critics have charged that he has disarmed the United States. Such assertions may be based on a misunderstanding of U.S. strategy, of the advantages of accuracy and reduced vulnerability, and of the desirability of limiting collateral damage. Nevertheless, the evidence does suggest that, if there has been an arms race in recent years, it has not been a quantitative arms race on the part of the United States.

Given the data on the arms race, it is surprising that Dr. Wiesner draws so little comfort from recent American performance. He makes no reference to the above facts, the Partial Test Ban alone being given credit for slowing down the arms race. Nor does he shed much light on what action the United States should take, if the Soviet Union continues to expand its forces. In the same time period, the Soviet Union has substantially increased both delivery vehicles and deliverable megatonnage. Should the United States take alarm? When and how should it respond? Whether in light of Soviet activity the United States should expand its own strategic forces is the question posed for defense decision-makers. On it Dr. Wiesner has remarkably little specific advice to offer.

III.

By far the most important paper is the last, for in it Wiesner's current views on arms policy are developed. It attracted considerable attention on its publication last fall in Scientific American. Its co-author is Dr. Herbert York, who served in the Eisenhower Administration, and the bipartisan authorship seems intended to attest to its
scientific unassailability. Wiesner has long felt that thorough-going disarmament is unobtainable for the present and the immediate objective should be to obtain stable mutual deterrence through arms limitation. Earlier in the section he argues that 200 hardened and dispersed missiles on each side would provide adequate deterrents. The Wiesner-York piece amplified the case for stable mutual deterrence, but with the added twist that present weapons technology prospects make it improbable that anything else can be obtained.

The argument starts quite plausibly with the contention that nuclear weapons in the low megaton range are fully adequate to satisfy essential military objectives. Megaton-yield weapons can destroy soft targets and, with sufficient accuracy, hardened enemy sites as well. It is then suggested that due to vulnerability considerations, the best protection is provided by large numbers of missiles. The argument is cast in terms of the missile duel calculations fashionable in the late fifties in which a single missile cannot destroy more than one enemy missile -- and a missile force only a smaller number of enemy missiles. The argument against big bombs is thus surreptitiously transformed into one contending that developing or deploying large-payload missiles would be militarily unproductive.

From the standpoint of stability, it is truly a misfortune that such calculations are losing their relevance. That, however, is the case. Late in the paper the possibility is recognized that "single rockets can eject multiple warheads" -- but solely for the purpose of "proving" that ballistic missile defense is infeasible. The multiple warhead missile is simply ignored in the discussion of the stability provided by hardened and dispersed missiles -- and rightly so, for earlier recognition would vitiate much of the argument.* Yet such

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*In the earlier essay on arms limitation, Wiesner has this to say: "Though it may be regarded as a gross oversimplification by the experts, this discussion will ignore the very great complications of the multiple weapon problem and consider the pure ballistic missile case." To ignore multiple delivery in a hypothetical article may be defensible. To ignore the issue four years later in what purports to be a precise and technical treatment verges on the irresponsible.
weaponry implies that a single enemy missile could destroy a number of ours. An edge in numbers, alone, would therefore provide inadequate protection and little comfort. In fact, the hardened and dispersed missile, in which Wiesner and York place substantial trust, may already be obsolescng. Particularly since the cost of missiles varies with the square-root of the payload (rather than linearly as Wiesner-York assert), for a fraction of the cost an enemy can, in principle, threaten with destruction a much larger deployment. Contrary to the Wiesner-York position, the large-payload missile may thus acquire major military importance. Given multiple warhead possibilities, the penetration aid problem, and the like, the Department of Defense would be derelict in its responsibilities were it to follow the advice of Wiesner and York.

Damage-limiting systems receive short shrift from Wiesner and York on even more questionable grounds. Ballistic missile defense, it is argued, will be useless at best, and probably destabilizing through stimulating additional work on offensive systems. The authors do concede that an airtight defense would have major strategic significance, but add that all systems are penetrable to some extent. However, they argue that a hypothetical system that would stop 90 per cent of incoming Soviet missiles would be militarily useless, since the Soviets would simply allocate additional missiles to destroy the target. The discussion is couched in terms of a single target -- and is true for one or a limited number of targets. It is not applicable to an overall target system -- unless it rests upon the assumption that the Soviets possess an inexhaustible supply of missiles. The argument is tantamount to saying that a 90 per cent reduction in the weight of a Soviet attack in general war would have no damage-limiting significance. At this point the authors' logic simply eludes this reviewer.

Civil defense is also useless. In this case the argument starts from the notion that the Soviets would without warning launch a strike at American cities. ("Distrust" not only of Soviet motives, but even of Soviet rationality seems to extend into the most unexpected places.) Calculations indicating that fallout shelters alone would save thirty
million or more lives in suburban areas, unattacked cities, and rural areas even in such an attack are dismissed with the obscurantist remark that "such calculations are nonsensical." It is almost a truism that fallout shelters give little protection in blast areas. The purpose of fallout shelters is to prevent painful and unnecessary deaths away from target areas -- especially if an enemy strikes at military sites. Since the authors assume that the chief Soviet objective in war would be to kill the maximum number of Americans rather than to limit damage to the Soviet Union (thus attributing to the Soviets the most callous aspects of U.S. strategic concepts of the mid-fifties), since they disregard the life-saving role of fallout shelters, dismiss blast shelters as unworkable, and do not consider evacuation techniques, their conclusions about civil defense are hardly surprising since they are built into the assumptions.

The final conclusion is a reductio ad absurdum, yet it is suggestive of the strong beliefs that govern the authors in their appraisal of arms policy. It states that national insecurity increases steadily with increases in military power. This judgment is not applied in the sense that greater possibilities for destruction imply greater collective risks to populations, it is meant to apply to individual states. It is inconsistent in that it washes away all that has previously been said about the advantages of stable mutual deterrence. In the American case, it implies that the United States has become more insecure with the diminishing vulnerability of its forces since 1960. More surprisingly, it asserts that the Soviet Union is more insecure after the acquisition of an intercontinental strike capability which not only deters the United States but has forced the latter to abandon a strategic doctrine which featured retaliatory city-busting -- more insecure than when it lay more or less naked before a nuclear-armed United States. It seems doubtful that this line of reasoning would have much appeal, not only in the Kremlin itself but also among Soviet scientists, whose judgment and support Wiesner so highly values.

If science is to have a major role in policy formation, the minimum requirement for scientists is that they retain a frame of mind in
which facts, unpleasant as they may be, are objectively assessed. Men like Drs. Wiesner and York who have held high public office, have a special obligation imposed upon them scrupulously to avoid misinforming the public. But in this presentation they are open to the charge of having misrepresented the technical data so as to leave the impression that weapon development is now more or less static and militarily marginal. Quite regrettably this is just not so.