Military Research and Development

Robert J. Bazell's report on the controversy over how much the United States should spend for military R & D (News and Comment, 20 Aug., p. 707) should have highlighted five critical points that underlie the debate.

First, the Federation of American Scientists (FAS), the General Accounting Office (GAO), and the director of defense research and engineering John S. Foster, Jr., all agree that the data do not permit precise comparisons between Soviet and U.S. military R & D funding. Foster says the error in official U.S. estimates of Soviet spending may be as large as 20 percent. This means that total military R & D expenditures in each country could be roughly equal; the Soviet Union may not spend more. Everyone also agrees that the rates of increase are clearly different; the Soviet effort grows more rapidly.

Second, Foster emphasizes that Soviet secrecy about their budget—and, more important, about their R & D programs —makes it difficult to gather and analyze the necessary data. Soviet secrecy about R & D is more important from our standpoint than Soviet secrecy about spending. (The FAS acknowledged this in their report but, oddly, did not give it great weight.)

Third, if about 80 percent of the secrecy that surrounds Soviet and U.S. R & D were removed, it would be in the interest of both countries. It would also clarify whether the U.S. government should take other action in R & D and in other areas. Less secrecy would help Foster and presumably please the FAS.

Fourth, there *may* be a valid analogy between Foster's argument that the Soviet Union could "assume technological superiority" and the arguments of a decade ago about the predicted decline in the U.S. trading position abroad. A few observers were aware in the early 1960's that the West Germans, Japanese, and others were developing the capability to seriously compete with large U.S. exporters of technological products, and that such a capability would ultimately lead to the balance-of-trade deficit we are now experiencing. Foster has been making a similar point for several years; we should recognize that past and current Soviet investments in military R & D *could* produce a substantial "national security R & D deficit" during the 1970's.

Fifth, arms control is critically needed to ensure international security and to relieve the economic burden of modern armament. With arms control, however, national security R & D should not be regarded as merely another component of the Department of Defense budget, ripe for massive cuts. If the United States is to maintain reliable arms control, we will need to (i) preserve a sophisticated strategic deterrent in whatever forms and at whatever levels are consistent with arms treaties agreed upon with the Soviet Union; (ii) avoid technological surprise; (iii) provide advanced strategic surveillance; (iv) supply U.S. allies with equipment tailored to their needs (rather than U.S. troops); (v) economize on U.S. military equipment costs through new "price dominated," rather than "better-performance-motivated," technological advances; and (vi) assess the technically complicated trade-offs between defense and arms control activities.

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Advertising material received in November and December from the Federation of American Scientists (FAS), who are currently trying to increase their membership and raise funds, quotes the 6 May report of the prominent FAS Ad Hoc Committee on Military Research and Development (*1*). This report was also the subject of a news story in *Science*. The passage quoted in the advertisement reads, "This entire episode [the presentations of John S. Foster, the Defense Department's director of research and engineering, to various congressional committees] has been a classical numbers game featuring selective disclosure, questionable assumptions, exaggeratedly precise estimates, misleading language, and alarmist, non sequitur conclusions."

Such an intemperate statement on the part of some of our nation's most respected thinkers about a person whose unselfish devotion to his duty is almost proverbial surely needs some explanation. We know some of the members of the FAS committee, and also John S. Foster, and have long tried to understand the reasons for the disparity between their views. We have finally concluded that the reasons for the disagreement are not susceptible to logical analysis, but are based on different appraisals of what is best for the stability of our world. Foster wishes to assure the defense of this country even

against threats which are not absolutely sure to materialize but which *may* materialize. The FAS committee wants no defense measure adopted unless the threat which such a measure is to counter can be shown with certainty to be in the offing.

Foster wishes to expand our defense research in order to "minimize the possiblity of a technical surprise" (*2*). He is particularly afraid of such a surprise because of "the remarkable secrecy maintained by the Soviet Union over their R & D efforts" which "often leads to uncertainty about some areas of the longer term threat." In other words, he wants to be *sure* of our capability to defend ourselves—a difficult task but part of the responsibility of the officials of the Department of Defense. Foster cautions that his data are not precise, but he wishes to act in spite of the lack of absolute certainty. The FAS committee, on the other hand, demands that the motivation for defense expenditures be free from assumptions (assumptions, by their very nature, are questionable) and be based on precise numbers.

The four-man FAS committee does not oppose defense research under all conditions. The first page of their statement of 6 May (*1*) contains the passage "The Federation of American Scientists supports a vigorous program of research, and of development (R & D), on those weapons that are necessary to maintain a deterrent of unquestioned power." In view of this, we are unable to interpret the rest of the FAS statement, and its general tone, unless we assume that the committee insists on an *absolute* proof that the research to be undertaken be truly "necessary." Other parts of the FAS statement support this assumption. Naturally, in view of the tightness of the Soviet and Chinese security, immensely more effective than our own, such proof is very difficult to furnish—a point not brought out in the FAS statement. Nor does it bring out two other facts which support our need to stay, at least in research, well ahead of the Soviet Union. These are, first, the Soviet Union's shorter lead time, due in part to their more extensive building of prototypes—a practice resolutely opposed by the FAS committee. Second, the report does not mention that the Soviet government has the power to assign its scientists at will to military research. It is small wonder then that some Soviet scientists are terrified by the thought of a future in which some leader will say "The strategic balance has changed. We must exploit it."

We believe that the controversy between Foster and the FAS committee is the result of a difference in desires. If there is a chance that we are safe, the FAS committee does not want to strengthen our defense research. If there is a chance that we are in danger, Foster wants to strengthen our defenses.

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References

1. *Is There an R & D Gap?* (Report of the Ad Hoc Committee on Military Research and Development of the Federation of American Scientists, Washington, D.C., 1971).
2. U.S. Senate, Armed Services Committee, Subcommittee on Research and Development, *Hearings on Authorization for Military Procurement* (92nd Congress, 1st session, 1971).

Stimulating Blood Donation

In his editorial "On stimulating the gift of blood" (13 August, p. 583), William Bevan supports H.R. 853, a bill to award a $25 federal income-tax deduction for "voluntary" blood donation. Not only could this bill cost the American taxpayers $30 to $40 million annually, but there is no certainty that it would accomplish its goal of increasing the quality and quantity of blood that is used in transfusion. A more basic question may also be raised, Is it right and necessary to convert most of our blood-donor population into one of de facto paid donors by legislative means?

The answer depends, as Bevan notes, on one's "faith in the altruistic principle." The principle appears not to work in the Soviet Union, where blood donation is rewarded by lavish government subsidies (*1*), but it is operative in England, Australia, and New Zealand, where voluntary donors supply 100 percent of the blood needs. That it can also work in the United States is shown by the successful operation of all voluntary, blood-donation systems in Seattle, Milwaukee, and other communities. Especially noteworthy is the success recently achieved in the recruitment of voluntary donors in New York City through the efforts of the Community Blood Council of Greater New York, which now