Letters

Atomic Scientists and the Political Mystique

The review, in your issue of 24 January, by Adolf A. Berle of *The Atomic Age*, a collection of papers from the *Bulletin of the Atomic Scientists*, delineates the issue between government —the man of government and the political scientist for whom the reviewer speaks—and the scientists and science of today, of the atomic age. To those, whether scientists or not, who recognize that war and the issue of war and peace cannot be left to the men of government, Berle concedes much, more than men of his persuasion and background are in the habit of conceding. But in the end, in a summation heavy with the dead hand of authority, he tells us that scientists are naive and fall short of the majority of mankind when it comes to understanding how to accomplish a change in national and world affairs: Men in government know best.

Churchill furnished the slogan about Russia, "a riddle wrapped in a mystery inside an enigma"—that is to say, Russia was beyond our understanding. In much the same way Berle makes government a mystery:

> Now government of any kind, let alone government on a world scale, is perhaps the most amazing and the most mystifying achievement of men. To a historically trained mind, it is a major miracle that government was achieved and is maintained in any substantial area of the earth's surface.

Again:

> But it so happens that power is itself a mystery whose explanation has scarcely even been intellectually organized.

He seeks to calm us by putting nuclear war in perspective; class struggles and international struggles have killed five million here, and fifty thousand there, and there are weapons other than nuclear explosions that can destroy the human race—chemical and biological means. With a mixture of condescension for scientists in politics, and admiration for their good intentions in entering this mysterious area, Berle implies that they should stick to their knitting:

"Physical scientists entering politics were, of course, out of the field of their precise competence." Who can deny it? But what becomes of democracy if only professional political scientists are to rule or participate in government? And what have the *cognoscenti* accomplished? In our time, two world wars, other wars, cold war, and the threat of extermination.

Scientists have "moved . . . into a field about which most human beings know rather more than most scientists." Who comprises the electorate in this country, knowing rather more than the scientists who moved into the political arena? Almost one-third vote for any Democrat, almost one-third for any Republican (the parties are hardly distinguishable in platform, and in foreign policy are largely bipartisan). And 36 percent did not vote when President Kennedy was elected. With 10 percent of the population Negro, the 36 percent abstentions were obviously not chiefly disfranchised Negroes. Apathy and disgust because of the lack of real choice offered over the years must be recognized as a symptom of the low level of political development in the country, below that of most political democracies—but, oddly enough, somehow ahead of that of our scientists!

Meanwhile, scientists carry on, despite all warnings. Pugwash remains and continues. *The Bulletin of Atomic Scientists* plans "to expand its role by contributing to public knowledge the implications of science for society and by stimulating both scientists and nonscientists into thinking and acting in those increasingly important areas where science and public affairs meet."

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Predicting Returns from Research

Lueck's letter of 7 February concerning scientific advisers to Congress suggests that there exist, in quantity, hard-boiled scientific administrators who can with confidence see the long-range profit-and-loss statements resulting from a proposed piece of research. Having striven in this direction myself for a number of years, I have concluded that Lueck overstates the case. I would like first, however, to argue against the profit motive in this application.

If one of these most wise administrators can see a cash profit at the end of a piece of research, it would seem the research should be sponsored and conducted by the profit-motivated industry and not by the government. Obviously, things are more complicated than that. "Profit," in Lueck's sense, must be related to national goals and the shifting sands of international politics. If such an administrator were presently seated he would be assisting in the control of research within the frame of whatever political administration succeeds President Johnson's (and Chairman Khrushchev's). Unfortunately, research does not produce in phase with political changes.

If, as I have found, predicting the ultimate profit from a proposed piece of research is a highly uncertain business, it may be sounder to aim for a high level of productivity with a high *average* value. May I suggest a guideline for this purpose? All research proposals that are reasonable by almost any standard should be accepted, if possible. The crux of the scheme is close and systematic review of each project to see if the research is proceeding as well toward its technical goals as one ought to expect. Rather than ask if bug counting in eastern Manitoba is a profitable piece of research we might ask if it is being conducted according to the most modern (and economical) methodology and if the investigator's progress is consistent with the goals he set himself in his original request. If not, it is possible that it is not being vigorously and purposefully pursued, or it is possible that the project is too difficult—even impossible of success—within the framework in which it is being carried on. Either of these cases is about 75 percent justification for canceling the project.

It is clear that many elements of private judgment will be applied to the