LETTERS

Democracy: Haven for Dissent

Two recent letters (4 Sept.) criticize scientists who venture to express opinions for public notice in relation to public policy matters. A third makes the same point by quoting the 267-year-old stricture by the Royal Society of London against "meddling with Divinity, Metaphysics, Moralls, Politics, Grammar, Rhetorick, or Logic." All three letters have a hollow sound in the context of present realities of the society in which we live, but the one by Arkush should not simply be ignored. He says, in relation to Nobel laureates expressing publicly their views about the impropriety of the U.S. participation in the southeast Asian war, "They apparently assume that political competence is common to all men."

Apparently Arkush chooses to ignore the fact that the assumption he decries is the central principle of democracy. Anyone who subscribes to universal suffrage implicitly makes that assumption. Democracy surely has its flaws, but nearly everyone in this country thinks it to be the best political system that has yet been devised. One of the reasons that democracy has worked as well as it has is undoubtedly because many scholars, in science as well as in other disciplines, have exercised their prerogatives as citizens to contribute to political debate. To make it work in our scientific and technological age, scientific experts must let the less well-informed public know their views. One suspects that what really bothers Arkush is that the views of the 44 Nobel laureates differ from his own, and that the general public may, as it should, be more impressed by their views expressed in concert than by his own.

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To men like Russell and Arkush (Letters, 4 Sept.) who idealize "experts" and expertise and suggest that the citizens of our country remain docile and compliant to the hypnotic credo "the President knows best," I commend the following recollections by former Nazi Albert Speer in his remarkable new book *Inside the Third Reich:*

> The ordinary party member was taught that grand policy was much too complex for him to judge it. Consequently . . . one was never called upon to take personal responsibility. The whole structure of the system was aimed at preventing conflicts of conscience from even arising. . . . Worse still was the restriction of responsibility to one's own field. That was explicitly demanded . . . people were immured in closed-off, isolated areas of life. The longer Hitler's system lasted, the more people's minds moved within such isolated chambers. . . . We had derived our principles from . . . the authoritarian though not totalitarian state of Imperial Germany (*1*, p. 33). . . .
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> With such arguments we soothed our consciences. I myself and many others snatched avidly at excuses; the things that would have offended us two years before we now accepted (*1*, p. 53).

To those who tell us we should not criticize the President I also commend a recent discerning critique of American society by T. Roszak (*2*), and especially the chapter "The myth of objective consciousness," an analysis of the "scientific world view."

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References

1. A. Speer, *Inside the Third Reich* (Macmillan, New York, 1970).
2. T. Roszak, *The Making of a Counter Culture* (Doubleday, Garden City, N.Y., 1969).

Russell and Arkush seem to be guilty of the not uncommon fallacy of confusing the role of technical expertise in the formulation of public policy. Technical expertise establishes the boundary conditions within which decisions in regards to policy should be formulated, but does not dictate the policy decision. Indeed, if technical considerations truly dictate the decision, it is a decision of necessity and not of "policy." . . . If the President were committed to withdrawal of all U.S. forces from Vietnam as rapidly as was technically feasible, he has expert advisers who could inform him how rapidly the necessary transport facilities could be mobilized to accomplish the task. Any scientist who criticized such a timetable would be clearly obligated to demonstrate greater technical expertise than the representatives from the Pentagon. In the present situation, however, the policy decision has not been formulated on the basis of technical feasibility. The Nixon doctrine of U.S. aid to achieve self-determination and its corollary of Vietnamization is clearly not the dictate of technical expertise; it is a philosophy of world politics and the role that this nation should play. Every responsible citizen has the obligation to examine that philosophy and, if he chooses, to express his disagreement without being subjected to the erroneous criticism

that he is invading an area where he lacks the expertise for wise technical decisions.

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As a lifelong professor, research scientist, and active participant in local and national scientific organizations I am as much interested in the history, advancement, and utilization of science as the signers of widely publicized letters. For a long time I have resented certain prominent scientists taking on themselves the right to speak for all of science and scientists, by implication, and worse, to deal authoritatively with subjects outside their special scientific competence. In courts of law (where I have often served as an expert witness in scientific and technical problems) the court is very careful to limit any expert's testimony to areas of demonstrated competence both in general and with respect to the particular case in issue. Any court would throw out as "incompetent" the testimony of famous scientists or would-be experts in "nonscientific" areas outside their competency.

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Oceanic Quest

Stommel, in his provocative article on future prospects for physical oceanography (26 June, p. 1531), asks "are present plans for expanded oceanographic research designed to solve basic scientific problems?" The answer is clearly no; they are designed to increase support for oceanographic work as a prerequisite to more effective use of the ocean and its resources. If successful, these plans should help scientists to solve basic scientific problems.

It is difficult to quarrel with Stommel's view that we must find out how the machinery of the ocean works before attempting to predict or control it (although many geophysical predictions contain large elements of empiricism). But having been involved in preparation of "An Oceanic Quest" and the "Ponza" Report (as was Stommel), I must disagree with his interpretation of the nature and implications of some of their recommendations.

Stommel tests these and other reports by asking whether their recommendations on basic scientific investigations in physical oceanography are adequate. Although physical oceanographers (including Stommel) participated in the studies, the principal emphasis was on cooperative and interdisciplinary programs, so it is not surprising that the purely physical aspects were not so fully developed as they might have been in more specialized groups. It should also be noted that neither study pretended to be comprehensive. On the contrary, they stressed that only *examples* of possible programs were presented.

Stommel suggests that proposals for the International Decade of Ocean Exploration (IDOE) and for the UN long-term and expanded program (LEPOR) were (or should have been) concerned exclusively with basic marine science. In fact, both programs are concerned only with certain aspects of marine science as they relate to ocean use. The reports stressed that achievement of the applied goal of enhanced ocean utilization depended on extensive scientific research and that the details of this research should be elaborated by the scientists concerned. Their intent was to establish a framework within which new support for oceanography could be applied.

Stommel is particularly hard on the Integrated Global Ocean Station System being developed by the Intergovernmental Oceanographic Commission. This program was initiated by the need to justify allocation of radio frequencies for transmission of oceanographic data and by the desire to develop an ocean counterpart to the World Weather Watch. The IGOSS was not conceived exclusively to reveal the dynamics of ocean circulation, although the dynamics of ocean circulation must be better understood before such a system can be designed. Rather it is intended to make possible eventual ocean forecasts to increase the safety and efficiency of various kinds of marine activities.

There are enough problems in the development of IGOSS without blaming it for others' sins. Nowhere in the official description of IGOSS is there reference to increasing the number of weather ship stations by 19, or beginning to set out 310 automatic data buoys in 1971. Such proposals may have been advanced in IGOSS or World Weather Watch discussions, but there is no evidence that IOC is committed to fostering them. Nor has there been any serious attempt to establish a routine global system involving hundreds of buoys, as implied by Stommel.