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THE ADVANCEMENT OF SCIENCE

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A Question of Checks and Balances

The Carter government's inheritance includes the science policy structure which emerged from five predecessor administrations. All things considered, it has worked, and many would say that this is a boat that should not be rocked. But the science policy structure is not as ideal as it may seem, and in some ways it is a house of cards. Some "zero-based" thought is therefore in order.

What is masked by the scope, variety, and general bullishness of the American research and development scene is the de facto federalization of science. It is more apparent in fundamental research, where only the federal presence makes it possible for those endless horizons to be pursued. Certainly there can be little question but that federal attitudes can make or break academic science. There is hardly a scientific discipline where all eyes are not riveted nervously on the fluttering federal wind sock. What saves the much-admired pluralism of American science and technology is that old habits of decentralization remain strong. Though government holds all the high cards, the working arrangements permit fundamental research to carry on as a discovery process, industrial technology to react (within limits) to competitive stimuli, and government agencies to operate in what amounts to an open R & D market.

So it is a benign federalization of science, so far. An accommodation has been reached. How it was reached, and on what principles of mutual expediency, is worth considering. The social warrant which legitimized the government's assumption of primacy in the affairs of science was the public fascination with science's role in war, defense, biomedicine, and space. Social consent was given implicitly, without the benefit of anything like the divisive battles over government's role in medicine, education, public power, or welfare. It was a silent transition, with few questions asked and few minority opinions noted. In a very significant sense, the outcome was rooted in the difference between the small society and the big society—a hardly noticed consequence of the altered scale of postwar industrial society with its contradictions, stresses, and shrunken reaction times.

It is all very well to speak at black-tie dinners of the warm partnership of science and government, for there is some truth in it. The problem is that it is the sort of partnership which government, when and if it chooses, can sweeten, sour, or dissolve. It is no longer unthinkable that as science provokes more and more questions about its social accountability, the federal partner will exact an increasing conformity with limits on the legitimate boundaries of pure and applied science.

The question is whether the postwar science policy structure has left science without those necessary "checks and balances" whose praises we sang so recently. Science has conceded a great deal of its policy independence in exchange for de facto federalization. It would be difficult, to understate the case, to point to effective checks and balances which demonstrate that science has retained genuine negotiating authority. And without that, the meanings of the quiet revolution in which the whole balance shifted in government's favor become serious indeed. If the price for regaining negotiating room has to be a less uxorious relationship with government, it may be for the best.

Restoring workable checks and balances will be a slow business. The goal itself is modest enough: to restore *balance* to the relationship between science and government. It can be helped if the scientific societies will invest more effort and initiative in science policy activities. Large federations such as AAAS need to adapt to Boulding's concept of the "intersect organization" as a means for linking science, for reinforcing purposes, with such sectors of society as law, business, and public interest groups. In this role may well lie the future value of AAAS and its affiliates to the scientific community and to government as well.—WILLIAM D. CAREY