The R and D Contract and Democratic Theory

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ABSTRACT

The purposes of this essay are to describe how federal research and development policy has altered authority relationships and to suggest a new concept of legitimacy in accord with the changed conditions. Research and development (R and D) creates an indeterminate future. Thus, the politics of research and development incorporates an apparent contradiction: political leadership demands that jobs be done which require creative and unpredictable actions on the part of private organizations, while it also demands that contractors be held responsible for fulfilling goals efficiently, avoiding deleterious secondary consequences, and refraining from abuses of power. The paradox can be resolved by creating norms of responsibility that allow for judgments on how a job is done rather than what is to be done. New institutions for technological assessment to check on unintended consequences of projects and citizen review boards to estimate the quality of life engendered by projects may provide such norms of responsibility.

When, in 1947, the Supreme Court, in *Everson v. The Board of Education*, set forth its now famous doctrine on the wall of separation between church and state, it was articulating one of the fundamental assumptions of all previous American history. That assumption was that human activities could be cut up into functional sectors and the walls of separation between them could be used as judgment points for social decisions. Since World War II it has become increasingly evident that the attempt to conceive of the social order as divided into specialized groups, each with its own values, norms, and techniques, and each contributing to the maintenance and growth of the entire system, must eventually run up against the facts of boundary exchanges and the apparent disappearance or radical revision of the boundaries themselves. Along with the inability to characterize emerging relations of legitimate authority with the traditional notions of neat separation of powers, have come severe and well-known technological changes. Many of the new technologies are a result of federal expenditures on research and development. At the same time, new patterns of authority have been created in research and development activity. The study of federal policy in research and development would seem to be promising for both political scientists and political philosophers. It is a focal point for discerning the impact of scientific planning on the distribution of power as well as an area in which the normative
theorist may discover the problems of legitimacy he must attack if his work is to make sense to human beings in the future. In this essay he will describe how federal research and development policy has altered authority relationships if not their rationalization, and suggest a new concept of legitimacy in accord with the changed conditions.

The recent history of federal research and development activity begins with the Office of Scientific Research and Development (OSRD). Through this office, the Government was able to go to the non-governmental scientific and technical community for assistance in weapons development during World War II. However, this community viewed its challenge much more broadly, and it became "a source of weapons creativity, unencumbered by what technically untutored military men conceived to be useful and possible."1 This meant that scientific people in nongovernment organizations were given problems of a military nature to solve, and, in providing solutions, they provided not only technical advice but also strategic advice on how to use them. Out of such Operations Research Groups as the Anti-Submarine Warfare Operations Group (ASWORG) came the beginnings of systems analysis, and systems analysis resulted from the fact that the old internally self-sufficient categories under which military planning and execution had operated no longer had their traditional utility. In fact, that most jealously guarded preserve of professional military staffs, strategic planning, was now invaded by civilians, and we were to evolve a whole new group of professionals known as the defense intellectuals.

The breakdown of the traditional professional boundaries required the evolution of new legal and organizational instruments. The R and D contract was the most important new legal instrument to be developed. It evolved from a set of ad hoc responses to the problems generated by World War II. Arthur Compton described an early instance in this process. He contacted the Mallinckrodt Chemical Works in 1942 and indicated that:

... we needed to process sixty tons of uranium. It was impossible to set a price until the processes were worked out in more detail... The only assurance I could give Mallinckrodt was that the Office of Scientific Research and Development would supply him with a letter of intent to work out a contract that would not leave him the loser... Some months later, (after the Army had taken over the atomic project) Colonel K. D. Nichols dropped in at my office. "A. H.," he said, "you'll be interested to know that we have finally signed a contract with Mallinckrodt for processing the first sixty tons of uranium.2

Such arrangements led to the development of cost-plus-fixed-fee, incentive-fee, and award-fee contracts that provide the legal basis for much of present R and D work. In simple terms, an R and D contract allows the contractor to take on a task that no one knows how to do at the time the contract is let, such as developing a life support system for going to the moon, and assures him that the government will pay all of the costs, plus providing a profit. Similar arrangements apply to some management contracts where nongovernmental organizations contract to manage government facilities.

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