

How do they go about trying to achieve this kind of freedom in organizations whose basic mission is not the advancement of science per se, but rather the defense of the Nation, the provision of public services, or the manufacturing of consumer products?

Perhaps the most commonly recognized way that scientists achieve freedom of action in such organizational contexts is by what we have called status-advancement, that is, to move into supervisory positions where scientists themselves can control the direction and administration of research programs that have institutionalized recognition within the larger agency or corporation. There is a dilemma involved in scientists assuming managerial responsibilities, however, in that, although they can thereby obtain more control over the work they are doing and thereby better shape their own future within a larger organizational context, they also find more of their time taken up by administrative responsibilities and less time actually to conduct research--that is, to do the kind of work for which they were trained. First line supervisors, or research group heads and lower-level laboratory managers, may still think of themselves primarily as scientists rather than managers, and may still try to allow themselves opportunity to engage directly in their own research, but sometimes at the neglect of administrative responsibilities. Moreover, they find themselves in the typical marginal position of the first level supervisor or foreman as a "man in the middle," who Janus-like must represent managerial requirements to non-managerial scientist employees and at the same time must represent employee interests to management.¹³ Many individuals who still see themselves as active scientists do not like such responsibilities, and we have reason to suspect that the number of scientists who have tried managerial responsibilities and voluntarily rejected them to return to the laboratory work bench is probably larger than for most other categories of employees.

A much less commonly recognized way for scientists to achieve freedom to pursue professional interests in various organizational contexts is by means of what we have called research entrepreneurship.¹⁴ Research entrepreneurship involves the "selling" of research ideas to sponsors--individuals or groups who will provide funding for research projects--either inside or outside the employing organization. Under such conditions the relation between a scientist and the sponsor of his research becomes very much like a relation between a professional person and a client. This relationship is institutionalized and recognized in terms of formal obligations and responsibilities wherever a research contract exists between a principal investigator and a sponsoring