

likely to choose alternatives that permit them to pursue their own interests in a manner that does not detract from the objectives of the project, but that may also result in contributions in general scientific knowledge in areas of professional interest to the scientists involved.

Our studies of this matter indicate that about one-fourth of the scientists admit frequent participation in non-formally-specified research activities, whereas another 40 to 50 percent admit occasional participation. Again, we find that those who are involved in these kinds of informally specified research activities are more likely to produce publications in professional media.

So much for this brief review of some of the ways that scientists try to express their professional interests in more bureaucratized organizational contexts. Our studies and those of others have also found a variety of ways in which organizations that are essentially bureaucratic in character attempt to utilize scientists and to integrate their activities with organizational goals or missions. These we can call "bureaucratic adaptation mechanisms."

The first of these is a familiar mechanism, recruitment and displacement. All organizations try to obtain the kinds of employees that are presumably best suited to what the organization wants them to do, and to get rid of those who are unable or unwilling to fulfill job requirements. Interestingly enough, however, we find that many organizations are really unsure about what to look for when it comes to hiring scientists. For example, where they have a choice, they are likely to hire a scientist who has a doctor's degree, rather than one who does not. They assume that the man with the doctor's degree is better qualified as a scientist, and, in a professional sense, this may be true. In terms of more bureaucratic requirements for applied research related to special organizational interests and problems, however, scientists with master's degrees may be more appropriate candidates for employment. Furthermore, we find that scientists with less than a doctor's degree are more likely to develop a strong sense of personal obligation toward the goals of an employer and to plan for a career with their employing organization. In any case, our research suggests that a more careful look at recruitment practices might well lead to the hiring of more suitable scientists as employees in certain kinds of research contexts. Recruitment takes on even more significance because of the fact that, in contrast to universities, few government or industrial organizations have any systematic means for displacing, or getting rid of, unproductive scientific personnel.

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