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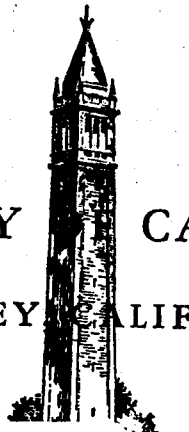

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THE ROLE OF THE RESEARCH ADMINISTRATOR

by

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Abstract

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Research organizations face particularly knotty problems of authority and control as they incorporate two subcultural traditions with respect to these problems -- the scientific and the managerial / administrative. These traditions meet, clash, and are transformed in the role of the research administrator.

This paper reports a preliminary attempt to characterize a number of role orientations among research administrators by means of a series of self-administered rankings of the functions they perform.

Mutually exclusive "administrative" and "research" orientations appeared in the rankings. The former stressed administrative control and planning functions and deemphasized involvement in scientific and technical activities and human relations functions; the "researchers" reversed these positions. A further "managerial" orientation stressed planning and human relations functions and placed low value upon research and administrative control.

The sample was too small to permit significant correlations between the role orientations and organizational and career variables. A striking feature of the rankings was that respondents who had held their positions for several years were more consistent in the various rankings than were more recent arrivals. This strongly suggests a developmental pattern to the role orientations.

Introduction

Every organization, whatever its activity, tends to develop means for measuring its performance. In many cases the need for doing this is excessive and reflects an obsession with control. Establishing quotas for salesmen is often an example of satisfying an obsession rather than a function in that it fosters some decision makers' illusion that they have more control over the organization than they actually have.

An industrial organization with a tangible product meets with comparatively fewer difficulties in assessing its performance, complicated as the task may be, than an equally complex research organization. Because they may be unaware of the difficulties of the concept, it seems to many administrators that the idea of "profit" is hard, objective and well-defined. But the goals of research organizations are long range, the value of a piece of research can often not be estimated for a long time after the research is accomplished, and the results of research endeavors are usually unforeseen. This creates difficulties for research organizations and anxieties for research administrators. They search for ways to justify the existence of the research organization--especially during those long dry spells between obvious and socially recognized successes.[1]

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[1] One of the persistent themes in the literature is the question of whether scientists can or cannot be managed. (See especially N. Kaplan, 1964.) One of the strongest pleas for "strong application of existing management knowledge and techniques to the R & D area" is made by C. Wilson Randle (1959). He claims "the laurels will go to those who actually manage research instead of just wishing they could." Though the precise positive functions of management in research productivity and creativity remain controversial it is at least clear that bad management will cause researchers to quit (see Clark D. Ahlberg & John C. Honey, 1951).

In an organization whose product is other than research it is generally held that the administrator plans and coordinates activities leading to predictable goals and that whatever subordinates may do might be performed more competently by the administrator, who cannot accomplish more tasks only because of lack of time. But in a research organization no one can forsee consequences of research activities, and specialists understandably know more about their work than the supervisor, whose task it is to direct them. The research administrator's task then is, in two senses, a contradiction: to coordinate the unpredictable and to pass judgment on work of those more expert than he.

Some empirical approaches to both these paradoxes have been attempted. There are several general studies of the relationships between risk-taking behavior and personality (e.g., Scodel, Ratoosh and Minas, 1959) but there are very few investigations of personality differences among administrators (R. Tagiuri, 1965).

On the level of social psychology and small group behavior a study of scientist-supervisor interaction by Baumgartel (1957) distinguished several styles of supervision in terms of the mode of exercise of authority and further related these styles to performance among the subordinates. However, no attempt was made to examine the conditions producing these styles. A step in the direction of regarding supervisory style as taking place within a larger organizational context is the tentative finding that the degree to which the supervisor is considered to have a voice in departmental decisions made by his superior is positively related to worker attitudes and performance. In a study of a public utility company over a decade ago Donald Pelz (1951) found this to be a more important determiner of employee attitudes than

conventional management practices. In view of a prevalent conception of the research administrator as a "buffer" one might expect this to be especially important in research organizations.

The problem of the relation between the authority of expertise and bureaucratic authority has concerned sociologists and organization theorists since Max Weber's theory of bureaucracy began to be applied in empirical studies. For example, the staff-line system of organization is one mode of bringing professional expert judgment to bear upon line problems. However, as has been pointed out (Dalton, 1950), this also creates problems of identification, competition, and information flow within the organization. The experts' primary reference groups often lie outside the organization, whereas line managers are more completely identified with the organization.[2] These observations are clearly relevant to the research bureaucracies that have emerged in the last two decades, yet twenty years of shifting educational patterns have served to modify, and in some cases obliterate, the staff-line distinctions.[3] The current assumption in the literature is that line administrators in research organizations generally emerge from technical work, but in fact very little is known about the characteristics and careers of research administrators (Uyecki and Cliffe, 1963, and Mainzer, 1963). Similarly, very little is known about their administrative orientations and practices.

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[2]For an extensive treatment of the "specialist" vs "institutionalist" orientations, see Kornhauser (1962). This book explores the built-in strains between work establishments and professional institutions.

[3]Almost a decade ago Herbert Shepard (1956) made some acute observations on how the meeting of traditional theory of industrial organizations and organizational traditions in science, were producing a new direction of industrial organization theory incorporating a great deal of human relations.

Concepts and Procedures of the Study

This study reports an initial attempt to develop a method of describing styles of research administration in various organizational contexts. Both from the point of view of sociology, psychology, and organizational design it is important to obtain this descriptive material. Sociolcgically we are concerned with the ways in which apparently conflicting requirements of scientific and technical activity and organizational control are reconciled. The psychological interest focuses on intrapersonal conflicts engendered by inconsistencies between organizational constraints and personal defenses. Information on existing patterns of work and attitude are essential to any attempt to understand and improve the conditions under which research administrators labor.

Two general types of information were deemed pertinent to these aims--accounts of the activities of research administrators (job content and time spent on sub-tasks) and indicators of attitudes toward these aspects of their work (relative importance of sub-tasks, ideal conceptions and individual satisfaction). We rejected the case study method because there is already a surfeit of qualitative case study material on the problems of research administrators. Our interest in organizational determinants indicated a wider sample "coverage" in breadth and depth than a case study would permit --that is, we wanted information from administrators in varying organizational contexts and at several levels within each context. Finally, a detailed case study is most apt when there is a good body of theory that lends itself to a "critical test." Research on research administration, however, is distinguished more by the quantity and variety of theories and approaches than by their quality.

Wider coverage indicated a questionnaire instrument of some kind. Such an instrument seemed promising especially because it offered a future tie-in with the several ongoing survey research approaches to the social and social-psychological correlates of performance in research and development environments. We hope at a later date to perform sociometric studies in some sample sub-organizations in order to relate the perceptions of colleagues and subordinates to the research administrators' self-perceptions.

The problem in developing a questionnaire was to reconcile our requirements for "measures" of administrators' orientations with our desire for descriptive material on the kinds of concerns research administrators have. We compromised with a list of eleven classes of activities or functions (drawn from the literature and discussions) likely to be carried out by research administrators. The questionnaire was supplemented by a series of unstructured interviews of a subsample of respondents. The questionnaire also elicited information on selected attitudes, social background and career factors, and perception of the relevance of organizational groupings to their work. These findings will be reported elsewhere.

In the pretest interviews the respondents discussed the list of functions and were asked to rank each class of activities in four respects:

a) in terms of "the order of importance you assign the functions for getting the job done under present conditions."

b) in terms of "the amount of time you spend performing these functions under present conditions."

c) "given greater freedom from various pressures and greater control over demands upon you, how would you

rank the importance of the functions in order to do the best possible job? In other words, what ought to be the order of importance to achieve maximum effectiveness?"

d) in terms of "the functions you personally find most satisfying to perform."

For the purposes of analysis we grouped these functions into four categories:

1. Scientific and technical activities in the sense of personal participation in the research work and keeping up with the literature and developments in the field.

2. Planning activities such as selection of projects, development of new programs, and review of ongoing work.

3. Maintenance of the research environment in the laboratory through cultivating good interpersonal relations, and criticism and encouragement of good ideas.

4. Activities relating to administrative control, such as budgeting, accounting, and securing acherence to shhedules on projects.

The Role Orientations

The analysis of the results depicted in Table I follows two main areas of interest. First is the identification of styles among the respondents in terms of the patterns of emphases they give to these aspects of their work. Secondly, we shall examine some of the consistencies or inconsistencies among the rankings of importance, time spent, ideal situation and satisfaction.

Let us first turn to the styles. We measure "style" by the weights given to the sub-tasks by the respondents. We did not initially anticipate

that there would be much variation in the rankings, but the data proved otherwise. The rankings in Table I show the emphases the respondent placed upon various aspects of their work. For instance, in terms of importance in getting the job done, respondents #4, 7, and 12 and the defense contractor bench supervisor rated their own research work high or medium, whereas all the rest rate this low.

Though all the researcher-oriented respondents had administrative positions with supervisory responsibilities--they were all uncomfortable with the term "supervision" and preferred to use terms such as "consultation with colleagues." Their significant reference groups were universities and professional societies. The defense contractor bench supervisor--an engineer--had recently received a coveted technical award from his company and he was being considered at his request for a senior non-supervisory post. Government laboratory respondent #12, a young physicist with clear research ambitions, had recently accepted a junior supervisory post on a trial basis but maintained he was extremely unhappy with the demands this made upon his research time and his relations with his former colleagues.[4]

A further feature of the ratings of the researcher/administrators was a tendency to minimize the importance of planning functions--"You can't plan basic research" was a recurrent comment. Though planning was discounted, the "researchers" acknowledged the importance of creating and maintaining a favorable research environment. Finally, all the respondents high or medium

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[4] These two men were clearly at a significant turning point in their careers in terms of remaining in scientific work or committing themselves to administrative careers. The literature seems to be fairly unanimous in stating that the greater rewards lie in management careers (see, e.g., C. Shepherd and P. Brown, 1956). A fruitful area of inquiry might be to investigate the consequences of holding research, managerial, or administrative orientations for the career development and promotion of lower level research supervisors.

on research rated the administrative control function low.

This apparent opposition between a scientific and technical orientation and approval of traditional organizational control mechanisms naturally also appears in reverse. Government laboratory administrators #10, 1, 3, and 2 and all the men in the other organizations (except the defense contractor bench level supervisor) rate the functions of administrative control high or medium. Planning functions loomed important in the scheme of the administratively oriented respondents, with the greater importance attached to short-range planning. It is suggestive of this style that all three of those respondents minimizing maintenance of research environment functions appear high or medium on administrative control. Among some technical supervisory people there is a complete rejection of such "human relations" concepts as "prestige" and "status symbols," and a strong belief in an autonomous technical logic that works best when not interfered with. For example, one of our interviewees replied to a question about the recent increase in prestige among scientific workers, "This prestige thing--by definition it means you're trying to put something into it that does not really exist in the position. So it being artificial, it is something I care very little about."[5]

A number of respondents ranked both research and administrative control low, putting greater emphasis on the planning and maintenance of research environment aspects of their role. These orientations clearly emerge as a type which we have called "managerial." Examples among our respondents are government laboratory administrators #8, 9, and 11 (with #10 and the defense contractor second level supervisor (A) as marginal cases). Significantly

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[5]This is similar in Hollingshead and Redlich's study, Social Class and Mental Illness, to bthe embarrased rejection by the directive and organic oriented group of psychiatrists of questions about social class position.

none of these is a lowest level supervisor. A striking feature of these respondents was their penchant for openly playing down their own technical role, easily making statements such as, "supervision doesn't make much sense when they are smarter than you are." On the one hand, they characterized their technical function as primarily one of veto of poor proposals. "If one of my division heads doesn't want to do what I told him, I say, 'what do you want to do?' He tells me, and if I don't see anything stupid with it, why that's what he does." On the other hand, they pointed out that one of their basic responsibilities involved shaping the research goals of their group. Another respondent said, "I feel that an administrator in the research area should participate in helping to chart the goals of the group, especially in an applied area of research, and even in a basic area I still feel that, maybe to a lesser extent, but yet I think the administrator should take an active lead in shaping the group. This may be done by selective recruiting. If you want to go into a new area, all right, you recruit in that area--as well as redirecting people who are already established in areas of research, in other words, redirecting their programs."

Finally, this group stressed the crucial importance of the creation and maintenance of a good research environment. Asked for his understanding of this function one administrator answered, "Depending upon the man and the work, it can be from just showing a greater degree of interest in something that he's doing the way you want him to go. Let him know you're interested in this area and that you think his work is interesting and promising. Certain people will start bending and going around into a new direction. Or you can just simply find an area that you think needs attention and you have some people that you think are competent enough to go into the area,

then just describing the problem to them and emphasizing the need in the area, you can get a few more to go . . . ."

We feel there is another important managerial type of function closely related to planning yet involving a rather different set of activities. Unfortunately, our attempt at defining such a "political", "entrepreneurial" function for managers turned out to be a too inclusive category--interpreted in too many senses by the respondents to be of any use for this analysis. Our conception of this set of activities nevertheless bears mention. This is the research administrator as a maker of policy about the uses and direction of scientific and technical work--primarily through his influence on the funding process. He plays a role in pushing certain areas of work, in steering given projects to certain funding sources, and persuading existing and potential funding sources of the use, desirability, or necessity of supporting given areas of work or specific projects. We are presently experimenting with ways to characterize this function and will include them in the next set of interviews.

Inconsistencies in the Role Orientations

The other area of interest concerns the consistency or lack of it among the rankings. Patterns of strain or dissatisfaction can be inferred from these data. Government laboratory respondents #4 and 7 ("researchers") and 10 and 2 ("administrators") showed very little variation from ranking to ranking. They were consistent--i.e., they appear to gain personal satisfaction from spending much time on performing functions they consider to be very important for getting the job done, as well as feeling that their present lot conforms in major outline with their ideal conceptions. Government laboratory respondents #12, 6, 9, and 3, on the other hand, showed

significant discrepancies among their rankings. Number 12 felt he could spend little time on the work he liked most; #9 finds he spends inordinate time on administrative matters; #3 gets little satisfaction from performing administrative functions, which he nevertheless considers essential to getting the job done. The major difference between the consistent and inconsistent rankers appears to be the length of tenure in the present position--the more recent the assumption of the position, the more likely he is to have worked out a consistent image of himself in his role. These remarks must be qualified by the comment of the British research manager who said that he couldn't very well admit discrepancies among his rankings of importance, time spent, and satisfaction without also admitting his failure as an administrator.

In summary, the rankings of activities performed by the administrators revealed a surprising variety of role conceptions. Further, inconsistencies in the rankings indicate dissonance between what the administrator feels obliged to do and what gives him most satisfaction.

TABLE I

RESEARCH, MANAGERIAL, AND ADMINISTRATIVE ORIENTATIONS AMONG R & D ADMINISTRATORS

Scores of respondents in selected organizations on rankings of functions

Respondents	Rankings of functions in terms of:			
	Actual Importance	Actual Time Spent	'Ideal' Situation	Personal Satisfaction
	a b c d	a b c d	a b c d	a b c d
Government R & D Lab.				
Respondent #4	H L H L	H M H L	H L H L	H L H L
Respondent #7	H M M L	H M L L	H M L L	H L M L
Respondent #12	M H M L	L M M L	M H M L	H M L L
Respondent #6	L L H L	L H M L	L H H L	M H H L
Respondent #8	L H H L	L M H M	L M H M	M M H L
Respondent #9	L H M L	L H M H	L H M L	M H H L
Respondent #11	L H M L	L H M M	L H H L	L M H L
Respondent #10	L H H M	L H H M	L H H L	L H H L
Respondent #1	L H L M	L H M H	L H M M	M H M M
Respondent #3	L H M H	L H M H	L H H M	M H H L
Respondent #2	L M M H	L L M H	L M M H	L L M H
Non-profit Research Org.				
Research Director	L M M H	L M H L	H M H L	H M H L
Large Defense Contractor				
2nd level sup. (A)	L M H M	L M M H	L M H M	M H H L
2nd level sup. (B)	L H L H	L H L H	-------	H M H L
Bench level sup.	H M H L	H M M M	H L H L	H L H L
Large British Industrial Org.				
Mgr. Research Div.	L M M M	L M M M	L M M M	L M M M
2nd level sup.	L H L M	M H L L	M H M M	M H L L

Description of functions (see attached list)

a = Own research	(10+11)	
b = Planning	(3+ 4)	
c = Morale and criticism	(6+ 7)	
d = Administrative control	(1+ 8)	

Scores

H = 0 - 4.75	(High)
M = 5 - 7	(Medium)
L = 7.5 - 11	(Low)

Categories of Functions of R & D Administrators

1. Budgeting
2. Assessment and evaluation of personnel - hiring and firing
3. Long -range planning of important areas of R & D, development of new R & D programs
4. Short-range planning--selection and approval of specific projects and work assignments, review of ongoing work
5. Coordination of plans and projects with objectives and policies of the organization and funding sources
6. Creation and maintenance of good morale and human relations
7. Criticism of scientific and technical ideas. Encouragement of development of good ideas
8. Maintenance of adequate work levels on projects and adherence to schedules
9. Dissemination of the R & D activities and accomplishments of your organization
10. "Keeping up" with scientific and technical events in the field
11. Conducts research or development work himself - personal projects

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