



Management Science

Publication details, including instructions for authors and subscription information:
<http://pubsonline.informs.org>

Commentary

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To cite this article:

John W. Abrams, (1965) Commentary. Management Science 12(2):B-3-B-5. <https://doi.org/10.1287/mnsc.12.2.B3>

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COMMENTARY

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In their dialectic of implementation, Churchman and Schainblatt have initiated a logical analysis of the manager scientist interaction which is accepted as being fundamental to the problem. The situation which is examined might well be expressed diagrammatically in a somewhat different manner (Fig. 1) for the purposes of comment.

Consider a management system to consist of a series of nodes and arcs as below



FIGURE 1

so chosen as to differentiate the nodal points of decision or human input from the physical limitations or constraints represented by the adjoining arcs. A real system would contain many branches, but for our purpose these need not be illustrated. The researcher's place in (or out of) this picture is as an outside influence which endeavours to propose changes so as to increase the flow in the network (i.e. to increase the payoff which measures the objective). This flow increase may be accomplished by alteration of the physical constraints, by rearrangement of the network pattern, by changing the decision rules at the nodes, or by any combination of the above. Consideration of the first two mentioned objects for change (the pattern or the constraints) indicates that alterations from their previous condition will naturally affect the decision-maker seated at the node, so that in effect all attempts to apply the results of management science will directly affect the decision-maker or manager. An appreciation of one aspect of the interaction between the researcher and the manager thus emerges.

A particular managerial responsibility is that of authorizing the implementation of the researcher's recommendations. Moreover, managers at all levels, through their control of decision rules (including interpretation of ambiguities) are in position to control the entire application of management science. This constitutes a second aspect of the researcher-manager interplay.

Churchman and Schainblatt have directed their attention to the nature of an optimal relationship between the manager and the researcher so that if in our pseudo-hydraulic analog (Fig. 1) the researcher is represented as another input source, the valves controlling his input will be so regulated that the overall effect will be towards system optimization. (Fig. 2)

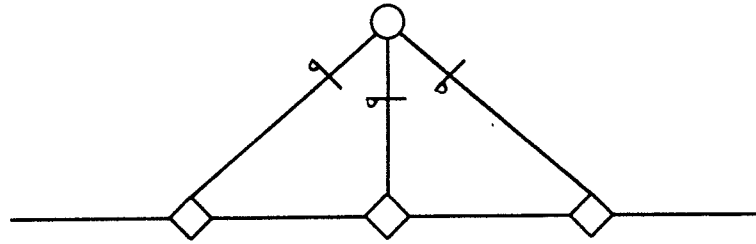


FIGURE 2

Crude as these representations are, they serve by their analogy to well known feedback systems to illustrate the probable sensitivity of the system to valve control and hence the critical importance of the manager-researcher relation.

The model of Figure 2 can also serve as backdrop when we consider the four opinions of the manager-researcher relationship discussed by Churchman and Schainblatt. For the *separate-function* concept to be descriptive of a workable system there would need be full transmission to the researcher of the descriptive parameters of the system as well as their modes of interaction if the researcher's proposals are to include all relevant factors (including managerial reaction as a factor) in a manner that is to be more than fortuitously successful. That such success may not be rare, presumably accounts for the adherents of this concept. They must feel that such communication as is virtually unilaterally obtained is adequate. This is clearly true in some simple cases; it breaks down in complex ones.

The separate-function purist may cavil at the inclusion of knowledge of managerial reaction as requisite on the researcher, but this objection can be readily broken down when we note that no researcher would present his plan in Classical Greek, at least to the average North American manager. We are thus led to the *communication position* as differing more in emphasis from the separate function one than in nature. This position seeks to improve the implementation atmosphere by removing impediments to the flow of information from the researcher to the manager. The principal impediment arises from the fact that the method of the scientist and the language in which he expresses himself are both basically foreign to the world of the manager. While no plea is made for the conversion of managers to scientists while simultaneously retaining their managerial status and function in the system, one is tempted to conclude that this is the "ideal" position towards which the communicators would like to approach as closely as possible. The entire position, however, is based upon the assumption that it is only the impediment of the managerial lack of appreciation for the scientist and his tools, that holds up implementation. There are other factors.

Recognition that in many cases the channels of information leading to the researcher are inadequate or more properly employed, lies at the base of the third position, that of the *persuader*. This position implies that adequate knowledge of the manager has not been acquired nor sought by the researcher, and

that, armed with this new knowledge, the scientist can more effectively fill his function. Despite the implied criticism of past action, this position can be appealing to the scientist if only because it confirms his place at the apex of a hierarchy. Pragmatically, he may also find it both satisfactory and satisfying. Philosophically, however, it may be a position of danger, for who has determined the suitability of the scientist—essentially the product of culture alien to the marketplace—as the proper candidate for this peak position from which his value judgements will dominate the future course of action.

Agreeing with Churchman and Schainblatt that the two preceding positions together approach the problem, we see from our analogy and discussion that there is more to the situation than can be solved by merely unblocking or enlarging communication channels. We are naturally led to seek a new position. Having exhausted the obvious ones which arose from the simple analogy, we come to the requirement that we examine the nature and validity of our methodology (and our model) of decision-making in the process of our research. The present inadequacies of our formal knowledge have been well expressed by Churchman and Schainblatt although concurrence cannot be given to their conclusion that their recommended course of action is unpalatable. Rather, the opportunity better to understand the nature of the system should be welcomed and our gratitude expressed to them for a searching analysis into the fundamentals of our problem. The direction for future research is clearly pointed out.

Yet, two words of warning. We may consider the mutual understanding position from the point of view of a controller situated in another dimension surveying the problem from a detached position, but who may govern the course of action by manipulating the appropriate controls. Who is to assume that position? It is the one automatically assumed by those who set value judgements on progress. Can we really feel confident we have chosen the best course? Our confidence may further weaken if we contemplate that by bringing the scientist and manager closer in mutual appreciation we may encounter the sterility of harmony rather than the fertility of intellectual conflict. Progress along the mutual understanding path may pose dangers, but it may also serve so to enlarge our perspective as to introduce dimensions of discourse presently inconceivable.

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