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Task and Sentient Systems and Their Boundary Controls*

Foreword (by E.J.M.)

What follows is a lightly edited version of the concluding chapters of a book by the late Kenneth Rice and myself, first published in 1967: *Systems of Organization: The Control of Task and Sentient Systems*, pp. 251–69. It extended Rice's previous applications of open system theory to the study of organizations (Rice 1958, 1963).

In this book we defined a *task system* as comprising the "system of activities . . . required to complete the process of transforming an intake into an output . . . plus the human and physical resources required to perform the activities." A *sentient system* or group is one that "demands and receives loyalty from its members." "An effective sentient system relates members of an enterprise to each other and to the enterprise in ways that are relevant to the skills and experience required for task performance"; it also provides its members with some defense against anxiety.

In the body of the book we drew on material from our own action research and consultancy in a range of enterprises in order to explore several themes: transactions across enterprise boundaries (sales, dry-cleaning); disentanglement of coincident task boundaries (family businesses); temporary and transitional task systems (design and construction of a new steel-works, research institutions, airlines); and the elimination of organizational boundaries within enterprises (a computer-controlled production system in a steel-works).

Most concepts and theories of organization had been based on production activities. In the open system framework these are "conversion systems," lying between the "import" and "export" activities of the enterprise. The Tavistock Institute's early applications of the concept of the *socio-technical system* had been in similar settings and there was a strong interest in seeking joint optimization of the social and technical. Rice's experiments in textile

*A reproduction of the two last chapters in *Systems of Organization*. London: Tavistock Publications, 1967.

weaving fell into that category. But many of our examples concerned activity systems, such as sales, which cross the boundaries of the enterprise, and also temporary and transitional systems, such as construction or research, where teams are brought together for a specific task: when that is completed they are disbanded and redeployed in new configurations. These suggested that the primary work-group concept of coincident task- and sentient-group organization is not essential to provide the means through which the individual is affiliated to the enterprise. Obversely, if the individual is exposed to frequent changes in work-group membership, in role, or in organization, then he needs some relatively more secure and enduring affiliation to relate him to the task of the enterprise. He must therefore occupy at least two work-oriented roles—one in a task system and the other in a sentient system. In a research enterprise, for example, sentient needs may be provided by a relatively permanent scientific or professional base, from which the individual is assigned to transient project teams.

Conceptually and practically, therefore, it is necessary to create three forms of organization: to control task performance; to ensure people's commitment to enterprise objectives; and to regulate relations between task and sentient systems. These requirements are inherent in temporary and transitional systems of activity; and the corresponding project-type organization provides the most appropriate basis for a general theory of organization.

That is one major theme running through the book. The second is that such a model requires the precise definition and control of the boundaries of activity systems and of groups. These two themes are taken up again, with other examples, in the concluding chapters.

Task and Sentient Systems

TASKS PRECLUDING COINCIDENCE OF TASK AND SENTIENT BOUNDARIES

If a task system, and hence a task group, straddles an enterprise boundary, it cannot be contained within the organizational boundaries of the enterprise; discrepancy between task and sentient systems is therefore inevitable. More importantly, if managing systems and their accompanying control and service functions are modelled on factory production systems, they tend to give hierarchies that are too simple and too inflexible to fit the complexities of such task performance. The representatives of a sales force and establishments in the dry-cleaning industry illustrated this part of our thesis.

The organization of professional service could also be considered within the same conceptual framework. The characteristic feature of a professional relationship is that it is made between a client (or patient) who wants help and a

professional person who gives it, or tries to do so. The activity system through which the help is given has a boundary that encompasses professional and client. On the one side, the client has to rely on the skill, experience and integrity of the professional to do what is necessary; on the other, the professional has to forswear exploitation of the dependent relationship involved. Implicit in the professional-client relationship is the possibility of failure, with corresponding anxieties, conscious or unconscious, that the client's problems may be intractable or the professional's skills inadequate. The more there is at stake, the more intense the confused and ambivalent feelings associated with the dependence are likely to be.

The sentient groups to which professional men and women commit themselves and from which they draw their support are the professional associations and their related learned societies. Membership is a qualification to practice. And the sanction to practice those professions that are concerned with the lives, liberties and property of their clients has, in our society, the force of law. Society, in effect, not only defines the boundaries of the task system and of the sentient system, and separates them, but also, through the sentient system, controls professional conduct in the task system.

Attempts that have been made to devise organizations based on person-centered task systems have also ignored the more general case of the task system that is temporary and transitional. We used building, research and air transport as our examples. The theater provides another. In the theater the task group is the cast and other staff assembled for a play. While the play is running, task group and sentient group are, or should be, coincident; but actors have "the profession" as their superordinate sentient group, to which they can commit themselves whether acting or "resting." Without the profession and the regard in which it is held, both by its members and by the public, it is doubtful if the theater could survive.

NATURAL COINCIDENCE

In the family business, by definition, task and sentient boundaries must coincide. But such a form of organization requires for its effectiveness conditions of stable equilibrium. In conditions of social, economic and technical change, commitment to the one group, the family, can not only distort judgments about task decisions, but can also lead to disruption of sentient-group relationships. In addition, as the group increases in size, it is less able to provide either satisfactory relationships or adequate self-regulation.

The great religious institutions are also examples of enterprises with coincidence of task and sentient boundaries. A church is characterized by its members' collective belief in a deity or system of deities on whom they can depend,