1. Whatever the merits of this talk, it can at least be said of "organizations" that as a subject they are definitely "in". Take these facts:

Following the best selling "In Search of Excellence" (by Thomas Peters and Robert Waterman) there is now a new best-seller by one of the same authors "A Passion for Excellence" (by Tom Peters and Nancy Austin). Both are upstaged and dramatized case studies of successful organizations. Incidentally there is no clear line distinguishing the subject of "management", on the one hand, from that of "organizations", on the other. For it is in the nature of organizations that they need to be managed.

A journal on "Organizational Behavior" has been launched by economists.


A Nobel prize has been awarded to Herbert Simon for his pioneering work on organizational economics. (You may wonder, of course, what the point is of going ahead with organization theory when the Nobel prize for it has been given away already.) There is, however, an ever increasing output of scholarly articles in this area.

One may, in fact, distinguish between several approaches taken by business economists, economic theorists and operations researchers.

The classical business school approach focusing on spans of control, functional versus product divisions, etc. This is exemplified by the well-known textbook of Koontz and O'Donnell (1959) Principles of Management.

The fundamental approach of Herbert Simon, who raises questions like "why are there bosses, why do people choose to submit to organizational authority?" (1951).

I have benefitted for critical comments by K. Mosler.
The approach to organizations as "teams" in which efficient methods for communication and decentralized decision making must be found, developed by Marschak and Radner (1972).

The "New Labor Economics" of Calvo, Putterman, Rosen, and Williamson with its emphasis on "transactions costs".

Operations research approaches yielding input-output relations or production functions.

I do not intend to survey these various approaches but will focus instead on the last mentioned approach, that which studies organizations as production systems in terms of inputs and outputs, i.e., in terms of their production functions. (Beckmann, 1977).

2. In order to see this approach in context consider first the question of organizational efficiency in its most elementary form: Given the task of an organization and given the span of control of its managers (assumed to be uniform throughout) how large an organization is needed? In particular, how many managers are needed when the task to be discharged requires Q operatives?

Let M be the minimum number of managers needed. Then a total of

\[ Q + M - 1 \] (1)

persons requires supervision since the chief executive officer or president need not be supervised. Let s be the span of control, considered as given and constant. We may in fact interpret s to mean that each person in the organization requires an input 1/s of time or supervisory effort by an immediate supervisor. The required number of managers is then 1/s times the expression (1) or

\[ M = \frac{1}{s} (Q + M - 1) \]

yielding

\[ M = \frac{Q-1}{s-1}. \] (2)

The remarkable thing about formula (2) is that the required amount of supervision is independent of the organization's structure. In fact, seven operatives could be supervised by three managers with a span of control of three using either of the following structures: