

Preface

'Chaos and Self-Organization in Companies'

Mathematics is created in the self-alienation of the human spirit. The spirit cannot discover itself in mathematics. The human spirit lives in human institutions.

Giovanni Battista Vico

With the cooperation of the Giambattista Vico Institute in Amsterdam and the kind and generous Guest Editor Arno L. Goudsmit of Groningen, *Human Systems Management* is presenting its special issue on 'Chaos and Self-Organization in Companies'.

Ever since Tom Peters' 'Thriving on Chaos' and modern corporate pre-occupation with self-management and self-organization, the emergence of mathematical chaos theory combined with Vico's well known dismissal of the use of mathematics in human systems we arrive at a truly explosive and controversial mixture of ideas with great potential for both benefits and failures.

This potential is also what *Human Systems Management* has thrived on. In order to achieve success, especially in business, entrepreneurship and management, one cannot be afraid of failures. That is the dictum of a free market economy. It is the duty of any self-respecting and innovative management journal to practice what it preaches, to continue searching and to continue challenging the outdated, the smug, the sclerotic and the ineffective.

As an Editor of this journal, I have to make a few comments on the nature of chaos and its potential use in management theory and practice. First, 'chaos' is a metaphor for the unknown, unexplained and uncomprehended. Chaos is what the

observer declares chaos to be. What is being perceived as chaotic depends on the observer, be it primitive food gatherer or modern stealth bomber pilot. Chaos is yet unperceived or unrevealed order.

Mathematical models of chaos themselves are never chaotic or stochastic, but highly deterministic, mathematically simple and very precise. They do not generate chaos, but exquisite order. Some orders are bound to be beyond human reach, due to their scale or complexity, and will always remain 'chaotic'. Other orders are continually being claimed from the realm of chaos by human experience, inquiry and reflection.

Finally, *chaos is unstable*. Chaos is not devoid of potential, it is not inert and 'dead', but it can revert to order because it is order. Chaos is revealed to the observer as order under proper conditions.

Chaos, order, stability, instability, equilibrium, disequilibrium, etc., are all observer dependent categories describing systems observed by given agent at particular time and place. This relationship between the observer and the observed is identical to the relationship between the manager and the managed.

To the external manager, to somebody 'outside' the system, management must be command and control. Many aspects of the managed remain chaotic, unordered and counterproductive: they must be countered with more command and more control.

To the internal manager, to somebody 'inside' the system, management must be local coordination of action with other participants. Actions of local coordination cannot be chaotic and are not perceived as such by the internal 'observer'. Chaos is in the eye of the (external) beholder.

Modern organizations and their management are

increasingly characterized by rapidly intensifying processes of management internalization. Managers are getting 'inside', becoming an integral part of the managed systems.

Consequently, the distinction between the formal and informal organization is fuzzified: formal hierarchies crumble while informal networks become institutionalized. Japanese 'amoeba' system (Kyocera Co.) operates with zero levels of management hierarchy; or, more precisely, authority, knowledge and responsibility are being circulated throughout the network according to continually

emerging and vanishing needs and requirements of the system at system's localities.

Manager is not and cannot be set apart from the system he is managing. He would become a controller, commander or dictator. Or, if that is what manager is and does, than we should start talking about coordination instead of management and coordinating instead of managing.

We are grateful to the authors and editors for their efforts and for producing this collection of interesting articles.

Milan Zeleny