Chapter VII

The SoSM Revisited—
A Critical Realist Perspective

Philip J. Dobson
Edith Cowan University, Western Australia

ABSTRACT

The chapter revisits the System of System Methodologies (SoSM) and suggests that use of the SoSM as a framework for defining methodological assumptions is difficult when the concerned methodologies have significantly different meanings for one axis of the framework—“system” complexity. It is suggested that the purpose of the underlying system can provide a more appropriate frame for defining system approaches—such purpose being defined as interaction or transformation (Mathiassen & Nielsen, 2000).

The chapter also uses aspects of critical realism to provide insights into the SoSM and the critical theory underpinning the framework. The SoSM helped to highlight the neglect of coercive situations and ultimately helped prompt the development of critical systems theory which is focused on three basic commitments, critical awareness, methodological pluralism, and emancipation. Maru and Woodford (2001) recently argue that the focus on emancipation has been relegated due to a concentration on pluralism. This chapter suggests that this is a logical outcome of the epistemological focus of the underlying critical theory of Habermas. The Habermas focus on the epistemological or knowledge-based aspects of the development process must necessarily relegate the importance of ontological matters such as the conditions necessary for emancipatory practice. This chapter proposes that the philosophy of critical realism has insights to offer through its highlighting of the ontological issues in more detail and in arguing for a recognition of the deep structures and mechanisms involved in social situations.

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INTRODUCTION

In the systems area, probably the best-known model for structuring thinking with respect to systems methodologies is Jackson and Keys’ System of System Methodologies (1984) (SoSM). This framework suggested that a mapping of system complexity against the decision-makers environment allowed a useful means of categorising systems methodologies to provide an indication as to their underlying assumptions concerning systems complexity (simple or complex) and participant situation (unitary, pluralist, or coercive). Banathy (1988) and Keys (1988) both used the SoSM to argue that an examination of problem contexts can suggest suitable methodological approaches. According to Jackson (1990), this use of the SoSM was seen to be a functionalist interpretation of the framework, and such a use for the SoSM was invalid as problem context and system’s characteristics are “in the eye of the beholder.”

The framework was developed as a practical tool to encourage methodological pluralism by suggesting a critical approach to the use of systems methodologies. The framework encompasses such diverse “systems approaches” as Beer’s Viable System Model, Forrester’s System Dynamic Modeling, Ackoff’s Interactive Planning, and Checkland’s Soft Systems Methodology. This paper argues that given the multiplicity of systems approaches, the practicality of such a framework is doubtful. The various “systems approaches” differ so fundamentally in their underlying assumptions regarding, for example, what “system” in fact means, that it is difficult to apply a framework that has system complexity as one of its major axis.

For example, Mingers (2000a) points out Checkland’s SSM regards the concept of a “system” as being purely an epistemological device having no ontological foundation. According to Checkland, systems thinking is a “particular way of describing the world” (Checkland, 1983, p. 671). Yet a theory such as Forrester’s System Dynamic Modeling provides a markedly different view of systems, giving them a far greater solidity. Forrester’s concept of systems as real objects with important cybernetic interactions is more ontologically focused and would allow a far deeper explanatory analysis of systems and their components.

The SSM concept of a system as being entirely conceptual places systems in what a critical realist would argue as the “transitive” world. Mingers (2000a) suggests that the lack of solidity within SSM toward the concept of a system is one of the major shortcomings of SSM. “With a single blow Checkland reduces the force of systems thinking” (p. 749) by its placement of SSM solely within the conceptual world. Such a placement does not allow for an explanatory focus for the methodology. Each investigated system is seen as being a unique study, open to differing perceptions and conclusions. The possibility of deriving deep explanatory concepts that are loosely generalisable is denied.

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