Chapter 4

Critical Realism and IS Research:
Some Methodological Implications

Philip J. Dobson
Edith Cowan University, Australia

ABSTRACT

Critical realism is seeing more application within the Information Systems field, but its application is still limited. Applying critical realism has proven to be difficult, partly because critical realism provides little practical guidance as to methodological development and even less guidance as to the role of technology within its complex arguments. This chapter discusses some of the practical implications consequent from adopting critical realism in terms of philosophy, theory, and methodology.

INTRODUCTION

This chapter briefly introduces critical realism and suggests some of the implications from adopting the philosophy to examine information systems within organizations. As Kljajic & Farr (2008) suggest information systems (IS), systems engineering (SE) and a systems approach (SA) are closely inter-related, yet their basic arguments depend on different underlying assumptions and beliefs. Systems "thinking" can be roughly separated into "soft" systems thinking and "hard"

systems thinking. For example Checkland's Soft Systems Methodology (Checkland, 1981) is often presented as a useful "soft systems" approach that 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). Checkland saw social systems as intrinsically different from natural systems – such a belief fundamentally in opposition to critical realism which argues that the methods of the sciences can be carefully (ie critically) applied to social systems.

In contrast cybernetics can be seen as a "hard" systems approach in that systems are seen as real objects with important cybernetic interactions. Mingers (2011b, p. 6) presents systems approaches as fundamentally depending on "The central systemic idea – that the characteristics and behaviour of entities depended on the structure of relationships between components rather than the properties of the components themselves – carries with it several other concepts – emergence, hierarchy and boundaries". Mingers (2011b) argues for a substantial correspondence between critical realism and the systems approach, questioning the reasons for critical realist neglect of the long history of systems thinking. He compares many of the systemic concepts such as emergence, boundary, and hierarchy with corresponding critical realist concepts. He calls for a much greater communication between the two groups to improve both disciplines.

Avgerou (2001) suggests many authors in the Information Systems arena separate the technological content from the social context in which the IT change ensues. This has allowed useful specialized IS knowledge to be developed largely separate from the social context. This analytical separation has been useful and can be seen to provide similar benefits to the so-called "analytical dualism" within critical realist argument. Analytical dualism is presented by Archer (1995) as an artificial, analytical separation of structure and agency, designed to assist in examining each of their different effects (see the morphogentic model explained below). Systems engineering can perhaps be argued as benefiting in a similar fashion from the separation of the technical from the social. As its name implies Systems Engineering has a strong technical focus and has grown from a basic underlying assumption that systems can be "engineered"; it tends to be focused on "what works".

Avgerou (2001) suggests a more appropriate model for today's information system combines the social and the technical in a heterogeneous network:

It suggests that what is generally called "information system" in the jargon of practitioners as well as academics cannot be meaningfully restricted to computer or communications applications within an independently delineated social environment. Technical artefacts such as hardware, software, data in paper or electronic form, carry with them engineers with the conventions of their trade, industries that sell, install and support them, "users" who understand their significance and interpret the way they should be put to action according to their circumstances and consultants who convert them from symbol manipulating machines to "competitive advantage. (p. 46)

The argument that the study of information technology in organizations requires a socio-technical emphasis encourages the adoption of methods from the social sciences arena. One of the recent philosophical developments from within social sciences is the philosophy of critical realism. Its adoption as underlabourer for research logically requires a strong emphasis on the social aspects of the object under study. The term underlabouring is taken from Locke (1894, p. 14) as "clearing the ground a little...removing some of the rubbish that lies in the way of knowledge".

Critical realism is primarily associated with the writings of Roy Bhaskar. His first thorough description is presented in A Realist Theory of Science (1978) and then in the more approachable The Possibility of Naturalism (1979). The first book presents Bhaskar's approach to the philosophy of science addressing much of positivist criticism. The second book argues for the extension of these arguments to the social arena; the term "critical" realism developing from the suggestion that the methods of the sciences should be carefully or critically applied to social investigation.

Whilst critical realism does help in guiding research and "clearing the ground a little", it

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