Critical Realism and Information Systems: Brief Responses to Monod and Klein

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Abstract:
In my paper (Mingers 2004) I put forward the case that the philosophical position known as critical realism could potentially provide a sound underpinning for information systems. This issue of Information and Organization contains two papers written in response to mine (Klein 2004; Monod 2004) and the editors have allowed me to make a very brief reply.
Critical Realism

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Introduction

In my paper (Mingers 2004) I put forward the case that the philosophical position known as “critical realism” could potentially provide a sound underpinning for information systems. It could do this because it successfully addresses some of the problems that dog information systems philosophy such as: an impoverished view of causality and explanation within empiricism/positivism; the major critiques of observer- and theory-independence from an interpretive stance; the dislocation between natural and social science; and the radical anti-realist positions adopted by constructivists and postmodernists. This issue of *Information and Organization* contains two papers written in response to mine (Klein 2004; Monod 2004) and the editors have allowed me to make a very brief reply.

I would like to thank both Emmanuel Monod and Heinz Klein for the time and care they have taken in responding to my paper. Whatever conclusions readers may come to, there is no doubt that there are important, and I believe unresolved, issues that go to the heart of the information systems discipline and the more that they are discussed and debated the more likely that progress will be made.

Monod’s Response

Monod highlights three areas of debate with critical realism (CR): the issue of observer-independence or objectivity; the issue of causality; and the issue of social science.

Objectivity

Monod suggests that there is a contradiction between my claiming the existence of a natural world independent of human conceptions of it, and my acceptance that knowledge is observer or subject dependent. He further suggests that the whole idea of “causality” and “objectivity” is part of the “old, out-of-date Physics” and has been supplanted by quantum physics and its ideas of “uncertainty” and “complementarity”.

The major weakness of Monod’s arguments is a failure to distinguish between ontology and epistemology or, more specifically, a translation of ontological questions (about what exists) into epistemological questions (about limitations of our knowledge of what exists). This is a common problem of idealist philosophies (including Kant) and Bhaskar calls it the “epistemic fallacy”.

So, there is no contradiction at all in arguing (against constructivism and idealism) for the existence of a world both prior to and going beyond human beings, whilst at the same time recognizing (against positivism) that our knowledge or experience of that world is inevitably shaped by our human cognitive experiences and abilities. That is one aspect of it being critical realism rather than empirical realism which would identify reality with our empirical experiences.

Monod’s Kantian approach attempts to reduce “reality” to our perceptions of it: “More radically, if there is no observer, the phenomenon cannot be, and the object disappears, precisely because it appears only within the intuition of the observer”. (Monod 2004, p. 9) The argument against this is a very simple one – scientific
knowledge, or any kind of knowledge, must be knowledge of something. There must be an object of knowledge for it to be knowledge at all. Monod could argue that the object is simply our perceptions or intuitions and not independent entities, but a detailed analysis of both perception (which is often mistaken) and scientific experiments (which often go wrong or produce unexpected results) (Bhaskar 1978) shows that there must be a domain of reality independent of our perceptions. Critical realism accepts that much of the practice of science precisely consists of human activity (the transitive domain) and is therefore not “objective” in the sense of independent, but equally the results of science, which Monod accepts, testify to it having an independent, intransitive domain as well.

Even Bohr himself did not think that his interpretation of quantum theory implied the existence of some noumenal realm beyond the reach of science – “It must be stressed that, far from involving any arbitrary renunciation of the ideal of causality the wider frame of complementarity directly expresses our position as regards the account of fundamental properties of matter presupposed in classical physical description, but outside its scope.” (cited in Honner (1987), p. 56). The problem was not so much that of reality itself but that the insights of quantum mechanics could not be expressed in the language and concepts of classical physics.

With regard to causality, these issues raise no problem for critical realism which has a much more sophisticated view. Rather than the classical linear deterministic view of causality, CR recognizes that causality will always be multi-faceted. The occurrence, or indeed absence, of particular events rests on the interplay of many different causal mechanisms at different ontological levels and the uncertainty principle simply puts the scientist into the frame as one of the relevant causal powers.

For a more detailed discussion see Bhaskar (1978; 1986) and Norris (1997, Ch. V).

Causality

Monod’s second criticism begins with a discussion of the relation of CR to several philosophical traditions – empiricism, functionalism and rationalism – suggesting they are all varieties of positivism and contrasting them with other non-positivistic traditions such as symbolic interactionism, hermeneutics, Marxism and Freudianism. I am not wholly sure of Monod’s point but I would just say that CR has developed in debate with a large range of philosophies, beginning with positivism and proceeding through to post-modernism (for instance, positivism in its various forms is covered in Bhaskar (1978), hermeneutics and methodological individualism in Bhaskar (1979), neo-Kantianism, Popper, Kuhn, Feyerabend, and the sociology of knowledge are discussed in Bhaskar (1986), Bachelard, Rorty and materialism in Bhaskar (1989), and dialectics in (1993)). Its general style of argumentation is “immanent critique”. This means that it takes some aspect of a competing position and then tries to show how this cannot in fact be explained according to the positions own premises, but can be accommodated within critical realism (Archer, Bhaskar et al. 1998, p. 4). CR does not however just dismiss competing philosophies but tries to incorporate within itself that which is valuable.

The next criticism concerns my brief discussion of CR’s relationship to Kant and what is meant by transcendentalism. I am quite happy to accept that my reference to Kant’s possibilities of knowledge is rather inadequate. With regard to the concept of transcendental argument, CR does use this term but clearly not in quite the same way as Kant. Kant takes as given that we experience the world in particular ways and asks what are the conditions that make this experience possible. His answer is that there must be a priori categories, independent of the experience, such as time and space,
that make it possible. It is therefore a questioning of the possibilities and limitations of knowledge; however it is a questioning that takes place from an individualistic and idealistic perspective. It limits itself to the experiences and cogitations of individual thinkers. Critical realism widens this question (Archer, Bhaskar et al. 1998, p. 4) to say, if there is some experience, or (social) activity, or philosophical interpretation that is accepted by both sides in a debate, even if only locally or historically contingent, then we can ask what are the conditions that make this possible? And, are such necessary conditions consistent with the theory at issue. If they are not then we have obviously demonstrated a contradiction in the theory and potentially vindicated the other. This does not “prove” the alternative to be true since the accepted premises may in fact be false but it does provide a strong argument for preferring one theory to another.

Natural and Social Science

The debate about natural and social science is clearly one of crucial importance for information systems which depends on both physical technology and people in organizations. The prevailing views have been either that the only valid form of science is positivism and that should be applied in both domains, or that the social world is inherently different to the natural world and requires a different form of science (interpretivism, hermeneutics, phenomenology etc.) or no science at all (post-modernism). Monod accuses CR of “reproducing the same extreme positioning as positivism in sociology” (p. 16) and “refus{ing} to include in explanations individual’s beliefs and actions” (p. 17). These claims are false. CR is clearly opposed to positivism in any domain. It does argue for a “modified naturalism” – that is, that the general approach of seeking to explain events and experiences in terms of underlying generative mechanisms and structures does hold in both domains although the distinctive nature of the social world must be clearly recognized. It certainly does not deny the place of individual action and belief. Rather, it conceptualizes the social world as an interaction between self-aware agents and social and cultural structures which both enable/constrain action and are themselves reproduced and transformed in the process. Indeed, the foremost critical realist sociologist has written books on social systems (Archer 1995), cultural systems (Archer 1988) and individual agency (Archer 2000).

My paper made clear that the social domain is significantly different to the physical domain in terms of ontology, epistemology and self-referentiality. CR fully accepts many of the claims of hermeneutics concerning the inherent meaningfulness of the social world. This leads it to endorse a pluralism in terms of research methods if not in terms of the most general level of scientific methodology (retroduction in the case of CR). In other words, understanding social beliefs and interactions is clearly a necessary pre-condition for explaining them and CR is quite happy employing hermeneutic and interpretive methods as well as more quantitative ones where appropriate. What it does not accept, however, is that it is not possible to go beyond the conscious self-understandings of individual subjects. Our activities are conditioned by social and psychological factors, and have consequences and effects, of which we are generally unaware and science must go beyond the individual in its search for explanations.
Klein’s Response

Heinz Klein has produced a thorough and thoughtful response to my paper. I am in sympathy with many of his concerns. Indeed, we share very similar intellectual histories: I too began with Popperian realism and then became seduced by the arguments of interpretivism and phenomenology. However, I saw that the subjectivism and idealism inherent in these philosophies tended to undercut any purchase we might have in dealing with “reality”. So I have spent many years climbing out of the pit, firstly through Habermasian critical social theory (Mingers 1980; Mingers 1984) and latterly through critical realism (Mingers 1992; Mingers 2000) as espoused in my paper.

Many of Klein’s criticisms point out gaps or lacunae that he perceives in my presentation of critical realism (CR). If they were truly absent they would be telling. However, as I hope to show critical realism in general has addressed virtually all of these areas in one way or another although it was not possible to deal with them all in my original paper. I am glad of the opportunity to expand on these themes and hope that, as Klein says, this will be part of a continuing conversation. For his commentary Klein relies mainly on one of Bhaskar’s books (apart from my paper) but CR has been developing over many years and there are several texts that the interested reader should consult. Bhaskar (1978) lays out the initial arguments, against positivism and empiricism, for transcendental realism within natural science. Bhaskar (1979) argues for a modified naturalism within social science, that is that the same generic realist methodological is applicable but that it needs to recognize the particular ontological and epistemological properties of the social domain. Bhaskar (1993) represents a significant shift in which Bhaskar re-interprets his ideas within a dialectical framework, drawing on Hegel and Marx, and develops more strongly the idea of explanatory critique. While in his later work (Bhaskar 2000) he moves again to consider the relation of CR to Eastern thought. Archer (1998) is the single best introduction containing excerpts from his work as well as commentaries from others.

Klein begins by sketching what he considers to be the four fundamental developments in Western philosophy in the recent past – Kant (transcendentalism), Wittgenstein (linguistic turn), Kuhn (paradigms) and Husserl/Schutz/Gadamer (philosophy of consciousness) and then claims that CR engages with only the first and third of these. I will make two general points before dealing with Klein’s more specific criticisms. I would certainly accept all these as major philosophies which have had a significant impact but one can point to others of arguably equal importance – positivism in all its forms from logical to hypothetico-deductivist; pragmatism from Peirce through to Rorty; structuralism from Levy-Strauss to Derrida; and continental philosophy from Nietzsche and Heidegger to Foucault and the extreme irrealism of post-modernism. I point this out simply to register that the terrain against which any new philosophy has to match itself is vast and that to highlight just a selection is somewhat arbitrary.

The second point is that, in fact, CR has precisely developed in a series of confrontations with many of the positions outlined above through its tactic of immanent critique as discussed above in connection with Monod’s criticisms.

Ontology

Klein claims that there is an inconsistency in CR’s ontological position. I would like therefore to make this clear. The primary ontological claim is the existence of a domain of causally-efficacious mechanisms and structures that have powers or
properties which are, in varying degrees, independent of our experience and knowledge of them. This is the domain of the Real and is in essence co-extensive with the entire universe. The interaction of these structures gives rise to the events that occur or do not occur (the Actual) and a small subset of these are experienced and observed by humans (the Empirical). Within the Real there are different kinds of entities with differing ontological properties and thereby differing epistemological possibilities: physical entities, ideas and concepts, feelings and reasons, languages, meanings, norms, practices and social structures. All have ontological existence because they can have causal effects even though they may not be directly perceptible. CR therefore espouses ontological pluralism not in the sense of there being three “different worlds” as Popper and Habermas suggest, but in the sense that the one “world” contains many different kinds of entities.

Human subjectivity is certainly at the forefront of CR’s ontology. Indeed, in comparison with the three worlds, Bhaskar’s model of the social world involves four kinds of interactions – material transactions with nature; direct interactions with other people; relations with the social structure; and the subjectivity and personality of the individual (Bhaskar 1993, p. 160).

CR also has a pluralist, quite Aristotelian, view of causation that is far from the linear deterministic constant-conjunction version underpinning positivism. Events are the result of the complex inter-play of multiple and stratified structures including the conscious, and unconscious, activities of social agents. CR is quite happy for reasons to be causes. Klein contrasts CR with interpretivism and suggests that the latter has a richer ontology. This would make an interesting discussion that I can only touch on. “Interpretivism” covers a wide range of approaches that differ substantively in the degree to which they accept a social reality external to the subjective meanings of the individual. Mingers (1984) distinguished four – phenomenology, ethnomethodology, hermeneutics and language-games although hermeneutics itself has a distinctive variant known as critical or dialectical hermeneutics (Myers 1994). CR totally accepts the necessity for a hermeneutic phase of enquiry “I want to argue that a hermeneutical circle (C1) is a condition of any act of enquiry, whether in natural or social science and that another (C2) is a condition of any dialogue or intersubjective communication at all. In these senses hermeneutics is indeed, as for example Gadamer has claimed, universal”. (Bhaskar 1979, p. 153). What it does not accept is those versions of interpretivism that maintain that the social world is exhausted by individual consciousnesses. Rather, it maintains there is a real social structure or system which has emerged from the knowledgeable activities of individuals but is now distinct from such activity. The social world is the result of the interaction between these to systems – the people and the structure. Social structures both enable and constrain social activity and are reproduced or transformed by such activity.1

Epistemology

Klein first questions CR’s conceptualization of knowledge – what is to count as scientific knowledge. Once again, CR maintains quite a pluralist view of knowledge. For example Bhaskar (Bhaskar 1993, p. 231) mentions the following distinctions: everyday/ scientific, natural/ social scientific, tacit/ explicit, know-how/ know-that, practical/ discursive, and competence/ performance. Knowledge clearly relates to

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1 There is an important debate on just this subject between Archer (2000) and King (1999; 2000) as well as a series of papers contrasting CR’s social theory with Giddens’ structuration theory – see Mingers (2003) for an overview.
truth and CR allows that truth in a general sense has four components - truth as normative or fiduciary, something to be trusted; truth as justifiable or warranted by evidence; truth as correspondence between a proposition and states of affairs; and finally truth as alethic, as being the real reason or cause of some phenomena (Bhaskar 1993, p. 217). So, far from having a narrow, positivistic conception of knowledge CR actually has a very rich one.

Klein’s next points can be dealt with quickly. He has concerns about CR’s transcendental arguments and these have been discussed above. Then he contrasts CR’s supposed causal form of explanation with explanation in terms of intentions and feelings. Again, as explained above, for CR reasons can be causes and so there is no contradiction – for CR causality includes intentions and feelings. Finally he emphasizes the importance of the researcher’s own background in an investigation. Again, this is accepted as the above quote about hermeneutics shows and is manifest in practice by a commitment to a plurality of research methods including interpretive ones.

**Norms and Values**

Finally, Klein suggests that CR “does not systematically incorporate norms and values in its ontology and epistemology”. Certainly this was not done in the earlier works but has since been developed as a central plank of CR in the form of “explanatory critique”. The first part of the argument is a refutation of Hume’s view that one cannot derive ought from is, a view that underpins the positivist insistence on the separation of facts and values (Bhaskar 1986, Ch. 2). This shows that social science can, and indeed must, be essentially evaluative. Moreover, social science, in studying both society and its belief systems, can often show that particular beliefs are false and also how these beliefs are essential in maintaining the status quo in that society. This can then justify changing society in order to change the false belief. This line of argument has the potential to be developed into a moral realism – i.e., the idea that there may be moral truths that can be discovered (Bhaskar 1993, p. 211).

**Conclusions**

Once again I would like to thank both Monod and Klein for the trouble they have taken in responding to my paper. Their many insightful comments have given me the opportunity to demonstrate the wide and rich terrain that critical realism covers and I hope that it will stimulate readers to delve into this literature themselves and continue the conversation that we have started. I believe that the issues raised are among the most important that face information systems and indeed society as a whole.

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2 I do not have space to set out these arguments in full.
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References