CRITICAL SYSTEMIC THINKING AS A PHILOSOPHY FOR 'DESIGN' PRACTICE

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Abstract

Some systems approaches tend to conceptualize social systems as collective entities, in which emergent properties of the whole can render individuals within a social system invisible. As critical systemic thinkers, however, we choose to see a social system as an emergent property of the interactions between unique individuals whose social relations are of interest. Thus, within the field of critical social research, we include work with a focus on sense-making and learning in the context of systems of human interaction. Such work tends to encourage challenging of taken-for-granted assumptions and 'received wisdom'. It is oriented towards supporting individuals and groups to reflect in context, to learn and hence to bring about beneficial change for themselves. In this class of research, we include work influenced by, for example, Gregory Bateson. His taxonomy of orders of learning, and his exploration of human interaction have informed work of many other researchers. His insights have been influential in highlighting concepts such as 'otherness', 'in-betweenness' and 'immanence' as relevant aspects to explore in relation to human systems. Another author whose work has informed that of many other researchers is Claudio Ciborra. An on-going critique of rationality characterizes his contribution to investigation of human systems. Ciborra highlights differences between logical descriptions of social behavior that people make and their actual, contextualized experiences. This social behavior includes play as an emergent property of improvisation in problem solving practice and expressionism as communicative practice. This paper will discuss the contributions of critical systemic thinkers to the development and application of critical social research.

Keywords: Critical Systemic Thinking, Phenomenology, Social Practice Design, Contextual Dependency.

1 BACKGROUND

Social practice design involves efforts to support participating organizational actors to become change agents in their own environment. This provides a possibility for participants to create visions about problem solving and thus share in ownership of visions of solutions (see for example Cattani and Jacucci, 2006; Jacucci, 2007). Drawing on earlier work (e.g. Lyytinen and Klein 1985) Klein (2007) highlights three distinct 'stages' in social research which can be useful in identifying work with a critical dimension. Bednar and Welch (2007) expanded on these original three stages with a 'Relative meta-stage' (see table 1). The first stage is an interpretive stage, concerned with gaining insight into social phenomena. A second stage goes beyond interpretations to embrace critique, through examination of social practices lying behind them. A third stage, which Klein sees as unique to work in critical social theory, has its focus on achieving understandings with potential to enable beneficial change in social arrangements.

Stage	
Interpretive	Hermeneutic insights into observations and data attempting to achieve subjective view of situation
Genealogical	Going beyond interpretation to attempt to validate 'accepted' interpretations
Constructive	Suggesting in which frame of reference the outcome of the genealogical stage applies. Looking for ways forward.
Relative meta-stage	Critical reflection encompassing all aspects of research from its inception. Transcending stages, reflecting transparent, conscious choices.

Table 1.   Stages in Critical Research (Bednar and Welch, 2007).

We can see different philosophical approaches to design reflected in various IS development methodologies. As an example of an early interpretive, sociotechnical methodology for IS analysis, ETHICS (Effective Technical and Human Implementation of Computer Systems), supports a democratic process of bringing about change (Mumford, 1983). This example has been informed by work falling into the second stage, and is a variant of the third stage of critical research. Other methodologies, such as the Soft Systems Methodology (SSM) especially in Mode 1, do not take such a critical stance (e.g. Checkland, 1990). Analysis in SSM requires reflection on individual perspectives, but does not necessarily include reflection on power relationships, nor do the actors necessarily control the analysis practice themselves. Multiview as a methodology combines several approaches into one (e.g. Wood-Harper et al., 1985). It is therefore very much open to interpretation according to the previous experiences analysts have had in using those original methodologies. Commitment to the perspectives of actors in a problem-space is not highlighted in Multiview, and therefore may not follow in practice. While both sociotechnical and participatory design approaches have a long history in the information systems area there are also recurrent instances of efforts to manage design practice in a top-down rational fashion. Sandberg and Targama, discussing general management practice, point out that a paradigm shift is apparent in both managerial practice and academic discussion in recent years. This paradigm shift represents efforts to move away from a perspective of management as direction and control, towards one of management as leadership and dialogue. In order for this shift to be realised as more than mere rhetoric, managers need to focus on the way people understand their work as a fundamental key to performance. A move away from rationalistic management traditions is therefore needed, towards a more interpretive approach where people are empowered to 'understand' (Sandberg and Targama, 2007). We can perceive similar efforts in work by Claudio Ciborra especially where he is questioning claims on human rational practice (e.g. Ciborra 2000; 2002).

It is not straightforward to recognise what is critical research because it is not always labelled as such. What do we mean when we use the expression 'critical research'? In table 2 five categories of critical research are outlined.

Category of critical research	Focus on emancipation of others	Focus on self-emancipation by freeing the mind from external power influences	Focus on foundations of discriminatory stratification	Focus on self-emancipation by systemic meta-reflection from unique individual perspectives	Focus on self-expression by systemic improvisation and bricolage by unique individuals
Reference work	Habermas	Foucault	Bourdieu	Bateson	Ciborra
Focus of theoretical attention	Communicative action	Recognition of power	Power structures	Autonomous and self-reflecting systems	Exploratory and creative emotional systems
Perspective	Shared understanding	Inter-individual impact	Socio-political impact	Self-awareness and understanding	Emergent expressionism

Table 2.   Five categories of critical research

Heinz Klein (2007), in his recent series of Leverhulme Lectures at Salford University, UK, suggested that three distinct streams of critical research may be distinguished. He bases his argument on criteria of the extent to which work is concerned with substantive social issues (e.g. power, social values), foundation in a cohesive socio-theoretical core, and a distinctive role in informing work by other researchers (e.g. through citation in key journals). Klein (2007) originally described three categories of critical research. Klein's three streams comprise (1) a collection of work exemplified by that of Habermas (e.g. 1984), which seeks to address issues of emancipation of others within society; (2) a further collection exemplified by Foucault (e.g. 1975), where the focus is upon ways in which individuals might seek to emancipate themselves by freeing their minds from external 'power' influences; and (3) a collection of work exemplified by Bourdieu (e.g. 1984), in which the foundations of discriminatory social stratification are explored. Bednar and Welch (2007) introduced a fourth category representing a critical systemic strand (e.g. Bateson, 1972; 1980). In table 2 below the four categories have been further adapted and expanded to include an expressive and exploratory strand (e.g. Ciborra, 2002). That Critical Systemic Thinking (work referencing Gregory Bateson et al) is an example of a fourth stream of research which meets Klein's criteria and embraces all three of the stages highlighted as characteristic of critical research has been discussed in previous work (Bednar and Welch, 2007). In this paper we go on to consider a fifth category of critical thinking which embraces critically informed improvisation, bricolage and expressionism (e.g. work referencing Claudio Ciborra).

2   CRITICAL THINKING AND IMPROVISATION

We assume that all academic practices draw upon some kind of philosophical foundation, more explicitly in some than in others. Research into design practice for Information Systems is no exception. In earlier work (Bednar and Welch, 2007) we interpreted Klein's suggestion that the third constructive stage (see table 1.) is unique to critical research slightly differently from the way Klein described it. In Table 1 we have adapted and expanded upon the stages described by Klein (2007) to include their relationship to Critical Systemic Thinking (relative meta-stage). This adaptation suits our interpretation and use of later work by Claudio Ciborra (e.g. 2000; 2002; 2004). When philosophy is regarded as a practical discipline and built upon systems thinking (as is demonstrated in the works of Gregory Bateson and Claudio Ciborra) the third stage cannot separated from the first and second.

Essentially, if the third stage is required for the first and second stages to come to completion, there would be no other stage than the third. The impact of Critical Systemic Thinking is that the third stage would engulf the other two. Critically informed research from a systemic perspective includes a desire to explore the unique. Particular observations, made by particular observers, are not disqualified as 'mere anecdotal' evidence. We do not seek to generalise from the particular but to gain a richness and depth of understanding which may add to transparency in reflection on phenomena.

This is not to suggest that there are no circumstances in which we, as researchers, might legitimately choose to regard particular instances of a phenomenon as similar, i.e. that those instances may be regarded for practical purposes as repeatable or indicative of patterns. However, as researchers, we need to maintain awareness that we are making a choice to regard particular phenomena in this way. This must include awareness of the practical purpose behind the act of choosing, and of the limited extent to which any conclusions are generalise-able. However similar phenomena appear to be, it is the specific complex network of contexts surrounding them which defines their uniqueness. When we make efforts to communicate we are 'expressing ourselves' (and by definition from our own personal point of view). Critical thinking involves attempts to challenge our own assumptions. This is an exercise in practical philosophy, in which we attempt to reflect upon experience, and reflect upon this process of reflection (sense-making) in a continuous spiral, in order to question our own values, beliefs and understandings. In Ciborra's (2000; 2002; 2004) work this we recognise a similar feature in his discussions on problem solving including descriptions on engagement and improvisation. Incorporating playfulness and improvisation in design practice (as described for example by Jacucci et al, 2007) corresponds well with our interpretation of ideas by Claudio Ciborra.

Critical Systemic Thinking includes a focus on vehicles which are intended to promote and assist in organizational sense-making processes. Such vehicles may provide support for inquiry leading to a richer knowledge base on which informed action for change might be founded (see for example Bednar, 2000). It is an essential characteristic of Critical Systemic Thinking that ownership of the ongoing inquiry should rest with the actors involved in the scenario under investigation. In analysis or design situations a team of people who facilitate the inquiry will need to be comprised of (inside) actors, and one or more external guides (specialists or researchers), experienced in systemic methods, who provide support and guidance. One such approach, the framework for Strategic Systemic Thinking (Bednar, 2000) supports investigation of a problem space through inquiry into multiple levels of contextual dependencies within which each individual involved is enabled to explore her own unique perspectives. These individuals are then supported to examine, and discuss as a group, the range of individually-created narratives, in order to discover the range of opinion. The aim is not to seek for a consensus, which could easily be enforcing a socially instigated self-censorship. Instead the objective is to enrich the base from which informed action could proceed. A range of methods might be used by actors seeking to articulate their worldviews, e.g. creation of rich pictures or role playing in order to support visualization and communication of mental models. The aim is to bring about a constructive dialogue between the actors and the external intervenee. In work discussing social practice design the organisational intervention is supported by an external counsellor (see for example Cattani and Jacucci, 2006; Jacucci, 2007). In SST a similar role is ascribed to the external intervenee.

3 CONCLUSIONS

As travellers in life, we are usually aware that a map is not the territory it represents. However, as researchers, inquiring into practice, are we always aware of the domain within which that practice is situated? Descriptions of practice sometimes suggest that this is not the case. For example, do engineers actually believe that the models they develop and use are reflections of some reality? It is likely that an engineer never actually follows his models when developing an artefact or process. Similarly, we can ask ourselves whether we believe that a chef actually cooks by following a recipe. Possibly, only someone who does not know how to cook would think so. It is not possible for the professional to make explicit all the tacit elements of her knowing. It is sometimes the case, however, that descriptions of practice are produced based in a kind of rationality that suggests these misapprehensions are appropriate. In the context of research, can we say that rational design practice

has any relevance? If, in the field of organisational practice, only the uninitiated ever had illusions that the 'grand theories' of 'rational design' could be directly applicable, then informed research must recognize this also. To those with no illusions, such 'grand theories' were a basis for reflection and critique. Thus, to this extent we have always been 'improvising' and still are. Rather than espousing a perspective of denial, we might point to critical systemic thinking – a recognition that the 'grand theories' can only be used as metaphors, i.e. a basis for practical philosophy. By adopting such a stance, we envisage that it is possible to avoid dismissing as worthless research which could be useful material for reflection and learning when juxtaposed with other perspectives on practice. Models and explanatory frameworks within which research has been conducted need not be rejected as 'naïve and rational' if there is recognition of their useful role as metaphors. At the same time, we suggest a need for a critically-informed approach to research which makes explicit efforts to shed light upon taken-for-granted assumptions and naïve rationalities, illuminating metaphor and stimulating reflection. A pragmatic way forward could be to allow organisational actors ('problem owners') to be their own change agents whilst incorporating playfulness, improvisation and bricolage. The idea is to sponsor design practices which incorporate reflective and expressionist efforts in creating social visions of future design spaces.

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