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Concerns with "Mutual Constitution":
A Critical Realist Commentary

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ABSTRACT

The case for "analytical dualism" as a means of approaching sociotechnical action is presented as an alternative to accounts which tend to conflate agency, structure, and technology. This is based on the work of Margaret Archer, whose work is in turn located in the traditions of critical realism. Her commitment to analytical dualism, which stresses both the importance of time in analysis and the emergent properties of structure, is argued to give a firmer purchase on the notion of context than the alternatives based on, for example, the work of Giddens and Latour.

Keywords: critical realism; information technology; structure and agency

INTRODUCTION

I want to start from the premise that what concerns many researchers in this area is how best to conceptualise the nature of "context." From the point of view of those researching information systems (broadly constituted), the concern is to avoid what they perceive as being, at best, an over-emphasis on technical factors and, at worst, the charge of technological determinism. They are keen, therefore, to emphasise the importance of the organisational, social, and cultural context in situating the development and use of technological artefacts. In this they are joined by those studying information behaviour who are concerned with moving away from a simple model of an "environment" in which behaviours are selected "rationally" towards the ongoing interaction of context and action. In this endeavour, the notion of "mutual constitution" is seductive, and the seduction is reinforced by those whose concepts are turned to for support. For some, this is the actor-network theory (ANT) of Bruno Latour and others, where there is a strong emphasis on action embedded in networks. For those working in this tradition, the removal of the hyphen from "socio-technical" is a deliberate act designed to stress the ineradicable coupling of the social and the technical. "Sociotechnical" action, therefore, represents the solution of the problem of context by its conflation into networks of actants. Not all analysts in this area, however, would wish to go so far, and so, as in other areas of the study of

organisation, the theorist of choice is often Anthony Giddens and his notion of "structuration." What is taken from this is the mutual constitution of structure and agency, where structures form the ever-present conditions for the production and reproduction of agency. The strength of such notions is their emphasis on the irre-vocable interconnections between action and context, but their weakness, it will be argued, is a tendency to privilege action over context. That is, when we explore these approaches in a little more detail, we find that they do not help as much as we might like in the specification of context. These criticisms will be addressed briefly but, as they have been considered else-where (Jones, 1999; Mutch, 2002), the main part of the argument will be devoted to the presentation of an alternative approach. The contention is that ideas drawn from the philosophical tradition of critical real-ism, and specifically from the application to social theory by the sociologist Marga-ret Archer, are of much more value both in specifying what we mean by context and in conceptualising the relationship between context and action. This is, therefore, an act of what Basil Bernstein (1996) calls "secondary recontextualisation." That is, the aim is to introduce some of the ideas and show how these can help existing ap-proaches. Accordingly, after a brief intro-duction to some of the key tenets of criti-cal realism, we look in a little more detail at what Archer has to say about the nature of structures (our "context") and the relation-ship of structure to agency (our "action"). The key argument is that, whilst there is no society (and hence no technology and no information) without people, the challenge is to examine the interaction between the structures which people create (including information and technology) and the sub-sequent action in which people engage.

These more general ideas are then explored in the context of writings on organisations and technology. It is important to stress here that critical realism does not purport to be a substantive theory of either of these two domains; rather, it offers some conceptual clarity on ontological and epistemological issues, which can further help the develop-ment of domain-specific theories.

For Latour, the "classic" question of the relationship between agency and struc-ture is a case of asking the wrong ques-tion. His focus is on the enrolment of a variety of actors (sometimes "actants," to distinguish non-humans from humans) in networks of greater or lesser scale and scope (Latour, 1993). The consequence is an extremely helpful language for describ-ing processes that, in the hands of the adept, can be illuminating, but can also lead sim-ply to the production of more or less inter-esting stories. The particular value from ANT is the notion of "being specific about technology," but what we tend to get is an excellent language for describing process with the fading of context into the back-ground (Montiero & Hanseth, 1995). It may be for these reasons that rather more at-tention is paid to the work of Giddens (Walsham, 1992; Yates & Orlikowski, 1992). We need to be cautious here: it is not the purpose of this article to review the way in which Giddens has been employed, but we can take the comment of Hasselbladh and Kallinikos to stand in for many similar examples:

"It is not our task to defend structuration theory. However, we would like to observe that the analysis undertaken by Barley and Tolbert…does not have much in common with Giddens' basic ideas." (Hasselbladh & Kallinikos, 2000, p, 716; e.g., Phillips, 2003, p. 221)

What is it, however, that people seem to be drawing from Giddens? It would appear to be the notion that structure is important in forming the context which both enables and constrains action. A series of concepts are provided (structures of signification, legitimation, and domination) which provide a more finely grained conceptualisation of structure. However, whether what people take from Giddens and what is actually in Giddens are the same is open to some question. This revolves around Giddens' conception of structures as "memory traces" instantiated in action. This is a rather weak conceptualisation of structure, possibly weaker in practice that those who use it care to acknowledge (Jones, 1999). A rather large claim might be that in practice those who use Giddens are using the notion of structure in the rather stronger sense than Margaret Archer uses it. She has been one of Giddens' most trenchant critics, but before turning to her work, we need to briefly explore some key tenets of critical realism, as this might be an unfamiliar set of ideas to many.

CRITICAL REALISM: AN INTRODUCTION

We need to be clear at the outset that critical realism is a philosophical tradition that sees itself as "under-labouring" for other theories in both the natural and social sciences (Sayer, 1992). For these reasons, it is strictly speaking incorrect to talk about a critical realist analysis of organisations, technology, information, or any other phenomenon. Rather, substantive theories that address these domains can use the resources for conceptual clarity (Cruickshank, 2003b). At its heart, critical realism is an endeavour concerned with ontology. The realism indicates that the tra-

dition asserts that there is a reality independent of our knowing of it which has intransitive status. However, it rejects the notions drawn from what we might term scientific realism in the natural sciences, or positivism in the social sciences, that there is any direct access to this reality. Even in the natural sciences, where experimental closure can be reached in some cases, our knowledge of reality is not a reflection. Rather, it involves acts of interpretation at all stages, from observation through to theory building. Much of our progress in the latter moves through the creative use of language, especially of metaphor (Lewis, 1999; Lopez, 2003). So critical realism makes bold claims about ontology, but is altogether more relaxed about epistemology. Here, there can be multiple contending ways of knowing. Whether one is better than the other depends on its relation to what it is that we seek to know, not on its internal features. Within these basic conceptions, critical realism argues for an ontology of depth. That is, it pays due attention to the emergent nature of phenomena. Thus, in the work of Stephen Rose (1993) on the brain, memory is a system property of the brain which emerges from material substance, but which is not reducible to particular parts of that material. Critical realism is, then, anti-reductionist in method and places emphasis on emergence and systemic properties at the relevant level of enquiry. It also suggests that we need to distinguish between the empirical, the actual, and the real. For critical realists, the empirical are simply surface sensations that are the product of deeper mechanisms. What actually happens may be disguised by these surface manifestations. However, the actual in its turn is produced by the real mechanism, and it is these mechanisms which analysts and scientists seek to explore. The object of

study, therefore, should be the underlying mechanisms that produce surface manifestations, mechanisms which might not be apparent. They may, for example, only be activated in certain circumstances, or their impact may be confounded by the workings of counter-mechanisms (as noted later, we will often talk of "tendencies" rather than mechanisms in looking at the social world).

These propositions are derived in large part from the studies in the philosophy of science carried out by Roy Bhaskar (Collier, 1994). However, Bhaskar also has a considerable concern with human activity, and developed a Transformational Model of Social Activity which drew on the work of Giddens. This work has led to the emergence of an interest in his ideas in a number of domains in the social sciences, with prominent figures being Andrew Sayer (2000) in geography and Tony Lawson (2003) in economics. However, the most trenchant critic of Bhaskar's use of Giddens — and the theorist to develop the ideas in the most detail in the social domain — has been Margaret Archer. Archer is a sociologist of education who has developed since the 1970s a set of rich and complex ideas which found their fullest expression in a series of (to date) four books (Archer, 1995, 1996, 2000a, 2003). These are closely interlinked, but deal with separate aspects of the relationship between agency, structure, and culture. She terms this the "morphogenetic" approach — "morpho" being the element stressing change, "genetic" emphasising the importance of agency. There has been a move over the series towards a greater degree of concern with the nature of agency, but always with a strong focus on the objective characteristics of the context in which agency operates. In the comments below I am forced to simplify what is a complex body of work,

with the twin aims of introducing the work (possibly sending people to the originals) and exploring how it might form a better set of concepts for the exploration of context than notions of mutual constitution.

Let us start with the nature of structures. Archer (1995) identifies two prevailing approaches to the nature of structure and agency. One is that which she terms "downward conflationism," which she finds in traditions such as structuralism, where social action is, as it were, simply "read off" the nature of structure. In such approaches agency becomes a mere epiphenomenon, with agents merely the bearers of structure. In such a situation the task of analysts becomes simply to find the keys to unlock the code of structure, which once discovered will reveal all the answers. Those approaches which deploy forms of technological determinism might exhibit some of these attributes, where social consequences are seen to flow inevitably from the fact of technical implementation. The other dominant approach, developed often in opposition to structuralist approaches, is one which places all the attention on the interaction of agents and sees structures as either irrelevant or, again, a mere transient by-product of action. Her targets here are those which operate under the broad rubric of "methodological individualism" and she has been particularly concerned to counter the claims of rational choice theorists (Archer, 2000b). These she would term "upwards conflationists" and these approaches would, in turn, be rejected by Giddens. His structuration theory is designed to avoid the false polarity engendered by either of the approaches we have outlined, but, Archer argues, in his formulations he falls into the trap of what she terms "central conflationism." The problem here is that in eliding the differences between agency and structure, in arguing

for their mutual constitution, Giddens removes the analytical purchase which can be gained from holding the two terms apart. Archer stresses the notions of emergent properties and temporality in arguing for a stronger conception of structure, which then leads to her argument for "analytical dualism." Her argument is that, whilst structures are created by people, those people are not "those here present now." That is, the structures that are produced by social interaction then take on objective status for future rounds of social interaction. Their emergent properties, emergent from but not reducible to the previous actions of social actors, have causal powers in shaping and enabling future projects. What do we mean here by "structure?" Archer suggests a number of components — roles, organisations, institutions, and systems — that are inter-related and have primacy, depending on the context of analysis. This allows us some purchase on the relationship between the local and the global. Archer (1996) also further elaborates her account by considering the relationship between structure and culture. She is concerned in her account of culture to explode what she terms the "myth of cultural integration," the notion that culture presupposes an integrated and necessarily harmonious set of relations, and suggests a need to analyse culture as a set of propositions about the world, some of which can be in logical contradiction with each other. We will take this notion of contradiction further below, but having presented an outline of the formation of structure (to use that as a shorthand just now for the combination of structure and culture), we have to consider the implications for agency.

Archer (1995) argues that for the purpose of analysis, we need to hold agency and structure apart. This "analytical dualism" is quite clear in recognising that concrete situations will involve elements of agency and structure in complex interactions. She suggests that the way of getting at such situations is to engage in the production of analytical narratives that aim to tease out the relationship between agency and structure through a series of what she terms "morphogenetic" cycles (the "morpho" referring to the potential for change, the "genetic" referring to agential involvement). In each such cycle we start with the prior structural conditioning, exploring how this shapes and enables social interaction. In turn, such interaction elaborates structures, either by changing them or, perhaps more frequently, reproducing and confirming them. In considering how structures form the context for action, we need to return to the logical relations of contradiction and complementarity. Such relations can exist within structures (such as within the institutions of law or the family), within cultures (such as contending ideas of the family), or between structures and cultures (such as when practices of family life are in distinction to theories about how that practice should be conducted). Archer is anxious to argue that the existence of logical contradictions does not necessarily mean a clash between social groups. Such contradictions may lie unnoticed and "unactivated" if there are no actors with the interest in deploying them. What such combinations of contradictions and complementarities give us (and Archer explores various combinations in considerable depth) are logics for situated action. Such logics may not be picked up upon, perhaps because social groups lack the weight to be able to deploy them. They may suggest logics of action, but there is no inevitability about them. However, actors who chose differently will have to pay opportunity costs, and their choices may bring them to accept other logical connec-

tions which they had not appreciated. So, for example, one argument might be that certain assumptions about how to go on are inscribed into software (Melucci, 1996). This inscription then confronts those who use the software with a "natural" and relatively easy path to follow. However, they may choose to do otherwise and create innovative uses. However, such uses have opportunity costs in terms of the effort needed to, say, customise the software. In turn, these innovative uses form the context for future rounds of social interaction. However, this is to make some assumptions about the nature of social action and those who participate in it, and so we need to consider what Archer has to say about agency.

A prime concern in Archer's work has been to counter both individualistic, rational choice models of agency and the over-socialised accounts that produce only "cultural dopes." Her argument is that we need to consider more carefully what we take agency to be, and she suggests a tripartite division into persons, agents, and actors. She starts with the embodied person, emergent from but not reducible to their biological constitution. These persons are strong evaluators, able to form and pursue value-laden projects and to reflect on their progress towards them (Archer, 2000a). Such reflection, however, takes different forms, forms which Archer (2003) relates to modes of internal conversation. We all use, she argues, internal conversation to reflect on our projects, but the forms which such conversations take differ, and in differing affect our relations with the objective world of structure and culture that we face. This is to take a different line from Giddens (1991), whose emphasis is on the knowledgability of all actors, and from others, such as Bourdieu (1990), who place a stronger emphasis on the shaping of dispo-

sitions to act. Archer suggests that there are potentially three categories of reflexivity, all with different impacts on the degree to which persons will collide with structures. Some she terms "conversational reflexives." These rely on others to complete their internal conversations, and so they rely on a community of others who share their background assumptions. These people will avoid conflict with structures by seeking to steer away from it. Others are "autonomous reflexives," who conduct their conversations with themselves and take a strategic approach. These form the social actors whose pursuit of projects will lead them into collision with structures, leading to structural elaboration or change. The third category is that of the "meta-reflexive" — persons who reflect on their own reflexivity. They are, argues Archer, society's conscience, evaluating structure and culture against a moral yardstick and finding them wanting. (Archer recognises a fourth category, that of the "fractured reflexive," who for some reason is not able to conduct a satisfactory internal conversation and is so condemned to remain a passive primary agent, at the mercy of buffeting forces).

Whilst these conversations and evaluations take place at the level of the person, they are clearly shaped by the category of agency. For Archer (1995) this is a collective category, and is one partially constituted by involuntary positioning. By unequally distributed chance, persons are positioned in various categories of "primary agency" — as men or women, young or old, and so forth. In some cases, action is not needed to attribute primary agency — the simple fact, Archer argues, of an aging population has an influence on wider structures, regardless of whether there are common bonds or perceptions of them amongst the elderly. However, of course, such bonds can emerge and can lead to "corporate

agency," which is when a group of agents perceives a shared interest in joint action to further what they seem to have in common. Such agency then shapes the persons who engage in it, by, for example, giving them access to differential resources of language with which to conduct their internal conversations (Mutch, 2004). It also forms the preconditions for the role of the actor. This is the individual engaged in social action, shaped and enabled by objective constraints. This could be the occupation of a particular role, the expectations for behaviour in which have been shaped by previous occupants and by the emerging body of knowledge and ideas about how to go on in such a role. These suggest ways in which the actor should go on. The person is, of course, free to do differently, but only if the costs for so doing are paid.

This, then, is a broad sketch of Archer's bold and sophisticated arguments about the relationship between agency and structure. To recap, they make strong claims about the nature of both structure and agency. They posit the existence of structures as possessing emergent properties which have causal powers. Such structures form the context in which action takes place. That action is undertaken by strong evaluators, with intentions to act formed by their value-laden moral projects. Such projects may cause them to collide with existing structures, reproducing them or challenging them in the process. Structures provide strong situational logics of action, but the simple existence of either contradiction or complementarity in these logics has no necessary consequence for action. Whilst such an approach still insists on the "mutual constitution" of "the parts and the people", it suggests that we need to hold them apart in order to explore the interrelationship between them over time. The stress is on the construction of analytical narratives that pay attention to the unfolding of cycles of interaction between agency and structure over time. It should be clear that this is a different perspective on "mutual constitution," but what implications does this have for the study of organisations, information, and technology?

CRITICAL REALISM: IMPLICATIONS

We need to repeat again the warning that critical realism is not about replacing or creating anew substantive theories of particular social domains. It is entirely compatible with the reworking of existing theories, using the ontological clarity that critical realism claims to offer. We also need to recognise that Archer's work is a work of social theory, in which the objects of attention are societies in the process of change over large tracts of time and space. However, she would claim that her approach could be deployed at a number of levels of analysis; part of the challenge for those interested in the analysis of organisations, information, and technology is to show how this might be done. It starts, argues Cruickshank (2003b), through the construction of domain-specific meta-concepts through the immanent critique of existing bodies of work. It is not the purpose of the present argument to construct such concepts, nor is there the space for such an endeavour. However, it is possible to point to some avenues for exploration. There have already been some rather limited initial forays, but it should be clear from them that the enterprise is in its infancy (Ackroyd & Fleetwood, 2000; Cruickshank, 2003a; Lopez & Potter, 2001). Two substantial bodies of work which offer material for these endeavours that are worthy of further review are labour process theory and the new institutionalism. A wide body of

work has been produced under the stimulus of labour process theory, initially inspired by Braverman's (1974) deskilling thesis, but often departing far from his original concerns. From this work has emerged the current focus on critical management studies, as well as much other valuable work on the nature of organisations. What unites much of this otherwise very disparate work is the focus on conflict and power in organisations. In recent years much of this perspective has been brought to bear on the expanding area of "knowledge management" (Prichard, Hull, Chumer, & Willmott, 2000). An example that has considerable relevance for those exploring information and technology in organisations is the careful exploration of the impact of organisational politics on the deployment of Lotus Notes in a pharmaceutical company presented by Hayes and Walsham (2000). This is of importance when set against much of the literature on information use in organisations, when the context, as in Choo (1998), is only lightly sketched in and is simply seen as the placeholder for individual behaviour. However, for many of the excellent empirical studies emerging out of this critical tradition, the context is largely confined to organisational boundaries, with the broader social and cultural context being little explored. If we wish to seek examples of bodies of work that could potentially tie organisations more tightly into their broader context, then the work of the new institutionalists might be of some interest.

The new institutionalism in organisational analysis is a broadly North American phenomenon, with its roots in the rejection of rational choice models (Scott, 2001; Powell & DiMaggio, 1991). This gives it something of a shared agenda with some of Archer's (2000b) concerns. What is also interesting is the way that in some incarnations it is concerned with re-lating what happens in organisations to broader forces, particularly in situating action in the context of taken-for-granted understanding about appropriate forms for action and structure. The problem is that in this endeavour, such forces become all powerful and the organisation becomes reified into a unitary body whose actions are largely determined by these taken-for-granted assumptions (DiMaggio, 1998). From the perspective of Archer's morphogenetic approach, the problem is an excessive focus on culture, with institutions being conceived of as cognitive constructions shorn of their material and social dimensions. These forces are then given excessive weight, in an example of what she would term "downwards conflationism." The space for agency, both within organisations and on behalf of organisations, is radically reduced. Such criticisms are articulated by many who work within the parameters laid down by the tradition, notably in recent years by Lounsbury and Ventresca (2003) in their calls for a "new structuralism." Whilst we might argue that any form of structuralism is a dangerous path to follow, the resources presented by Archer would seem to be valuable for these internal critics; in turn, the arguments presented by these critics are of value in suggesting some elements of a distinctly critical realist approach.

One concern is that, broadly speaking, these approaches give relatively little weight to the inter-twined problematic of information and technology. Archer, for example, has barely anything to say about technology, save for a brief mention in considering theories of post-industrial society (Archer, 1990). However, her approach of analytical dualism based on emergent properties seems to fit well with the perspective elaborated by Andrew Feenberg in his *Questioning Technology*

(2001). Feenberg's work appears to have little impact in our domain, judging by the paucity of citations, but he too starts by recognising the merits of accounts based on constructivist approaches. However, these, he argues, neglect to place their findings in a broader political context. Feenberg, as a political philosopher working in the tradition of Critical Theory, is anxious to provide an account which situates technology in a broader context in order to further a project of democratising communicative practices (Feenberg, 1991). Now, we might recognise a wide range of problems with this project, particularly its reliance on Habermasian idealism, but for our current purposes, the interest is in Feenberg's account of the nature of technology, in which he argues for a two-level model, which can be recast in the form of analytical dualism. In this case, what is important is to pay equal attention to the constitution of technologies and their implementation in practice, which can be best done by holding the two apart. For Feenberg, the two moments are "primary instrumentalisation", which has to do with the constitution of the artefact, and "secondary instrumentalisation," which has to do with realisation. For each, Feenberg suggests a number of attributes.

For the process of constitution, Feenberg suggests that there is a process of the decontextualisation of some features from their original context so that they can be integrated into a technical system. This depends in turn on reductionism, in which "de-worlded things are simplified, stripped of technically useless qualities, and reduced to those aspects through which they can be enrolled in a technical network" (Feenberg, 2001, p. 203). This enables the object to be considered as an autonomous one, subject to technical laws. This then gives the artefact its seemingly purely technical quality; it has been rendered as such by a process which returns it back to the world as seemingly being not of it. However, in order to be part of that world again, the artefact has to be part of a social process that is more familiar to accounts given from, for example, actor-network theory, with Feenberg using terms such as "enrolment" to construct his account of realisation. For example, he notes:

"To function as an actual device, isolated, decontextualised technical objects must be combined with each other and re-embedded in the natural environment. Systematisation is the process of making these combinations and connections, in Latour's terms, of 'enrolling' objects in a network." (Feenberg, 2001, p. 205)

He also suggests moments in this process of mediation and concretisation. In mediation, ethical and aesthetic considerations supply new qualities to the technology which help to accommodate it to the new context. In concretisation, the technologies are combined with working practices to form new ways of working — ways of working that are clearly a prime concern of those working in this domain. Feenberg's approach is then an attempt to combine what we have learned through processual views of technology and a concern with the broader context. From the perspective of critical realism, the concern is not with the account of technology, which seems helpful, but with the legacy of Critical Theory. Here again, the ideas of Archer can form a more robust view of structure, but Feenberg's work provides resources which could help to repair the gap caused by the lack of consideration of technology. The importance here is in the emphasis on both the objective character of

the technology as it appears to the user and the potential for reinterpretation in the course of social action.

CONCLUSION

I have argued that ideas derived from critical realism, and in particular the morphogenetic approach of Margaret Archer, have a considerable amount to offer students of organisation, information, and technology. Whilst such ideas start from the premise that it is human activity that is central to the creation of society, they offer a better approach to the intertwined relationship of information and technology than rather vaguer notions of "mutual constitution." They do so by offering a stronger conception of structure than, for example, Giddens. By using the notion of emergent powers and stressing the centrality of time, they draw a stronger picture of structure and culture, forming an objective context that humans face in their engagement in social action. However, persons can choose — based on their strong evaluation of their personal projects as value laden — to confront or shy away from such structures, although they cannot avoid their implications entirely. As agents, such persons are placed involuntarily in particular positions, positions which shape their interests and resources. Deploying these resources as social actors, they can act in ways other than their interests and the logic of their situated action would suggest, but only if they are prepared to incur the opportunity costs of their actions. Such is only a brief sketch of the richness and complexity of these ideas. It needs to be stressed that ideas such as these are still under development and elaboration in their home domain of social theory. Their application in the realm of organisations is in its infancy, but such an application is not a question of

starting from scratch. Rather, I have tried to point to some existing ideas and approaches which would form a part of any more fully formulated perspective. The work of formulating such a perspective continues, but what can we say at this stage that it offers students of information and technology?

At a very simple level, we could argue that more attention to these ideas would help in sensitising researchers to certain aspects of context that they ought to be aware of. The conceptual clarity offered by the stronger sense of structure would seem to gel better with the way that researchers seem to conceive of structure in practice than notions drawn from Giddens. However, theories also carry with them logical entailments that go further than sensitisation (Stones, 1996). For critical realism the aim of research is the uncovering of the causal powers that are at operation, albeit that in the human domain we would express these as tendencies rather than as laws. We would also be tentative in our approach, recognising that our conclusions, in open systems, can only be corrigible and provisional. However, we would lay a particular stress on the importance of time. To construct an analytical narrative which seeks to explain the tendencies at work, we need to explore a sufficient stretch of time. A criticism of much work that focuses on implementation would be the timescale of the research. This would be in two aspects. One would be that the period examined before the particular focus of the research is relatively short. From the discussion above, it is clear that this period needs to be long enough to be able to appreciate the shaping of the context that action takes place in. Secondly, insufficient attention is often paid to the period of social action itself and to the subsequent structural elaboration. Often this is because the

pace of change at different levels of analysis is compressed, with the impression being given that taken-for-granted social practices change at the same pace as organisational routines (Barley & Tolbert, 1997). Social realism can help us here with its notions of stratified reality and careful attention to definitions. However, even at the level of situated action at the micro level, our analyses are often too quick to conclude that a particular instantiation is a "success" or a "failure," when we are only looking at a brief snapshot. Given that we are aware of the plasticity of technology and the creative ability of users, albeit it within more or less strong contexts, we need to allow time to unfold to be able to see if what we are recording are durable effects or mere growing pains.

REFERENCES

Ackroyd, S. & Fleetwood, S. (2000). *Realist perspectives on management and organisations*. London: Routledge.

Archer, M. (1990). Theory, culture and post-industrial society. In M. Featherstone (Ed.), *Global culture* (pp. 97-119). London: Sage Publications.

Archer, M. (1995). *Realist social theory: The morphogenetic approach*. Cambridge: Cambridge University Press.

Archer, M. (1996). *Culture and agency. The place of culture in social theory*. Cambridge: Cambridge University Press.

Archer, M. (2000a). *Being human: The problem of agency*. Cambridge: Cambridge University Press.

Archer, M. (2000b). Home economicus, Homo sociologicus and Homo sentiens. In M. Archer and J. Tritter (Eds.), *Rational choice theory* (pp. 36-56). London: Routledge.

Archer, M. (2003). *Structure, agency and the internal conversation.* Cambridge: Cambridge University Press.

Barley, S. & Tolbert, P. (1997). Institutionalization and structuration: Studying the links between action and institution. *Organization Studies*, *18*(1), 93-117.

Bernstein, B. (1996). *Pedagogy, symbolic control and identity: Theory, research, critique.* London: Taylor & Francis.

Bourdieu, P. (1990). *The logic of practice.* Cambridge: Polity.

Braverman, H. (1974). *Labour and monopoly capital: The degradation of work in the twentieth century.* New York: Monthly Review Press.

Choo, C.W. (1998). *The knowing organization: How organizations use information to construct meaning, create knowledge and make decisions.* New York: Oxford University Press.

Collier, A. (1994). *Critical realism: An introduction to the philosophy of Roy Bhaskar.* London: Verso.

Cruickshank, J. (2003a). *Critical realism: The difference it makes.* London: Routledge.

Cruickshank, J. (2003b). *Realism and sociology: Anti-foundationalism, ontology, and social research.* London: Routledge.

DiMaggio, P. (1988). Interest and agency in institutional theory. In L. Zucker (Ed.), *Institutional patterns and organizations: Culture and environment* (pp. 3-19). Cambridge, MA: Ballinger.

Feenberg, A. (1991). *Critical theory of technology.* New York: Oxford University Press.

Feenberg, A. (2001). *Questioning technology.* London: Routledge.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age.* Cambridge: Polity.

Hasselbladh, H. & Kallinikos, J. (2000). The project of rationalization: A critique

and reappraisal of neo-institutionalisation in organization studies. *Organization Studies, 21*(4), 697-720.

Hayes, N. & Walsham, G. (2000). Safe enclaves, political enclaves and knowledge working. In C. Pritchard, R. Hull, M. Chumer, & H. Willmott (Eds.), *Managing knowledge* (pp. 69-87). Basingstoke: Macmillan.

Jones, M. (1999). Structuration theory. In W. Currie & B. Galliers (Eds.), *Rethinking management information systems* (pp. 103-135). Oxford: Oxford University Press.

Latour, B. (1993). *We have never been modern.* Hemel Hempstead: Harvester Wheatsheaf.

Lawson, T. (2003) *Reorienting economics.* London: Routledge.

Lewis, P. (1999). Metaphor and critical realism. In S. Fleetwood (Ed.), *Critical realism in economics: Development and debate* (pp. 83-101). London: Routledge.

Lopez, J. & Potter, G. (2001). *After postmodernism: An introduction to critical realism.* London: The Athlone Press.

Lopez, J. (2003). *Society and its metaphors: Language, social theory and social structure.* London: Continuum.

Lounsbury, M. & Ventresca, M. (2003). The new structuralism in organizational theory. *Organization, 10*(3), 457-480.

Melucci, A. (1996). *Challenging codes: Collective action in the information age.* Cambridge: Cambridge University Press.

Monteiro, E. & Hanseth, O. (1995). Social shaping of information infrastructure: On being specific about the technology. In Orlikowski et al. (Eds.). (1996). *Information technology and changes in organizational work* (pp. 325-343). London: Chapman Hall.

Mutch, A. (2002). Actors and networks or agents and structures: A critical realist critique of actor-network theory. *Organization, 9*(3), 477-496.

Mutch, A. (2004) Constraints on the internal conversation: Margaret Archer and the structural shaping of thought. *Journal for the Theory of Social Behaviour, 34*(4), 429-445.

Phillips, N. (2003). Discourse or institution? Institutional theory and the challenge of critical discourse theory. In R. Westwood & S. Clegg (Eds.), *Debating Organization* (pp. 220-231). Oxford: Blackwell.

Powell, W.W. & DiMaggio, P. (1991). *The new institutionalism in organizational analysis.* Chicago: University of Chicago.

Prichard, C., Hull, R., Chumer, M., & Willmott, H. (2000). *Managing knowledge: Critical investigations of work and learning.* Basingstoke: Macmillan.

Rose, S. (1993). *The making of memory. From molecules to mind.* London: Bantam.

Sayer, A. (1992). *Method in social science: A realist approach.* London: Routledge.

Sayer, A. (2000). *Realism and social science.* London: Sage Publications.

Scott, W.R. (2001). *Institutions and organization.* London: Sage Publications.

Stones, R. (1996). *Sociological reasoning: Towards a past-modern sociology.* Basingstoke: Macmillan.

Walsham, G. (1992) *Interpreting information systems in organisations.* Chichester: John Wiley & Sons.

Yates, J. & Orlikowski, W. (1992) Genres of organizational communication — a structurational approach to studying communication and media. *Academy of Management Review, 17*(2), 299-326.

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