2005

The Problem of Agency Re-visited

Jeremy Rose
Aalborg University, jeremy@cs.aau.dk

Matthew Jones
University of Cambridge, m.jones@jims.cam.ac.uk

Duane Truex
Georgia State University, dtruex@gsu.edu

Follow this and additional works at: http://aisel.aisnet.org/sjis

The Problem of Agency Re-visited

Jeremy Rose

Dept. of Computer Science, University of Aalborg, Denmark
jeremy@cs.aau.dk

Matthew Jones

Judge Institute of Management, University of Cambridge, UK
m.jones@jims.cam.ac.uk

Duane Truex

Georgia State University, Atlanta, USA
dtruex@gsu.edu

Abstract. We analyze five commentaries to our "Socio-theoretic Accounts of IS: The Problem of Agency" paper. We find more commonalty in the way we think about theory and theory development in the IS field than expected, and clear up some misconceptions about our intentions. Actor network IS theorists are reluctant to accept the way we frame the problem of agency and we consider some of their arguments and propose counter arguments.

Key words: agency, structuration theory, actor network theory

1 Introduction

In our paper "Socio-theoretic Accounts of IS: the Problem of Agency" (SJIS, this issue p. 133) we argued that one way of characterizing the relationship

between organisations and technology in the IS field is to study agency. However two of the theories most used by socially oriented IS researchers, structuration theory and actor network theory, have at their hearts different and incompatible accounts of agency. In structuration theory, humans exhibit agency but computer systems don't; in actor network theory, both humans and machines act, somewhat symmetrically. Moreover IS scholars often adapt the two theories in ways which distort these theoretical principles, such that machines *do* come to display agency in structurational accounts of IS, whereas humans and machines are *not* treated symmetrically in ANT accounts. We described these contradictions as *the problem of agency* and suggested that the problem could be recognized empirically (for instance in the treatment of ERP implementations), and was also reflected widely across the field. We further suggested some guidelines for a more consistent theoretical treatment of agency, and a metaphor for that theoretical development: 'the double dance of agency.'

We are grateful to the SJIS debate forum editor Karlheinz Kautz for organizing (with customary thoroughness) a series of short responses from eminent scholars to our argument, and then asking us to write this short summarizing paper. We assume that, if you are reading this paper, you have also read both our original contribution and the five responses to it—otherwise it will not make a great deal of sense! Hanseth (SJIS, this issue p. 159) is more negative about the contribution of structuration theory to IS than we were, and correspondingly more positive about the contribution of actor network theory, suggesting that it addresses and resolves central problems in the relationship of organisations and technology. He suggests some more recent work that socially-oriented IS theorists could usefully adopt, but also that we need to move from being theory consumers (importers and appliers) to being theory developers and exporters. Theory development as a theme is also the principal focus of Holmström (SJIS, this issue p. 167), who, whilst disagreeing with our contention that there should be a more consistent theorisation of agency in IS studies, focuses on the historical context of theories and their trajectory—what came before and what comes next. McMaster and Wastell (SJIS, this issue p. 175), responding to our challenge to ANT theorists to be more specific about the way non-humans (here computer systems) act, argue that this is really a non-issue in ANT. The challenge is expressed in a way that separates and contrasts humans and machines—precisely the dichotomy that Latour's project sets out to undermine. In their view it would make more sense to eschew this *symmetrophobia* and talk about the agency of hybrids or collectives. Orlikowski (SJIS, this issue p. 183) essentially agreed with our theoretical analysis and thought that we could do better in theorising agency. She suggests

a distinction between human agency and material performativity as a way forward. Lastly Walsham (SJIS, this issue p. 153) nicely tops our double dance metaphor by advocating that, instead of building integrative agency theories, we should "encourage a thousand theoretical flowers to bloom." We thank all these authors for the care and consideration they have shown our paper, and the many good ideas they have contributed.

These contributions raise too many issues to address individually, so instead we look for common themes and address them somewhat in the order of the argument of the original problem of agency paper. In passing we hope also to address many of the individual points. We set out to identify the major issues, correct some received impressions of our work which didn't intend to project, and understand what implications the various arguments have for our argument and the directions we proposed.

2 On Structuration Theory

Hanseth takes a somewhat critical view of the contribution of structuration theory to the IS field. He points out that structuration theory, in common with many other social theories, is technology blind. This has in practice meant that a central task in ST adaptation as been to weave the technology into the theory, and that the more faithful the adapter is to the original theory, the less technology has its own voice, and the less it stands centre stage (the issue of how faithful a theory adapter should be is one we address later). Hanseth's argument is, in essence, not a very different argument from the argument we adopt in *the problem of agency* paper—our version of this proposition is, however focused on the agency question. We tend to agree that the understanding of technology in a social context that we need to achieve is "exactly the relationship ... between the technological artefact and the technology-in-practice" (Hanseth, this issue p. 160). However we would argue that understanding the dual nature of agency (how machines act on people, how people act on machines) is a useful way to do this. Hanseth rather ignores the positive role of ST (and key ST adapters such as Orlikowski) in sensitizing the IS field to social issues, progressing it beyond over-simplified managerial and organisational explanations, and opening up the debate about technology and organisations. However his position seems to strengthen rather than undermine our 'problem of agency' argument.

3   On Actor Network Theory

Both Hanseth and McMaster and Wastell raise more serious issues about our treatment of ANT. Hanseth finds our presentation of ANT too focused on the issue of symmetry, which he implies is a historical concern. He would rather forget symmetry and concentrate on hybrids and collectives. McMaster and Wastell go directly for the jugular and accuse us of "symmetrophobic block" (p. 175) (we enjoyed their contribution and have made appointments with our doctors to see whether this unfortunate affliction can be cured!) They are also concerned with symmetry, but more with its role in an overarching rejection of the polarisation of the social and the technical, than with its analytical role within the theory. Symmetry, they rightly point out, is not the same as equivalence (humans and machines can be treated symmetrically without being regarded as equivalent). They characterize Latour's project as the "unravelling the modernist epistemological settlement" of dualism and essentialism (p. 177). Our problem of agency is, in their view, just another expression of dualism and essentialism (humans and machines, properties of agency). Both contributors would prefer to investigate agency as an emergent or shared property of the network, hybrid or collective, and argue that it is meaningless to separate out the components of a hybrid and attribute agency to them, at least in ANT terms.

Whilst we agree that we gave a symmetry-focused account of ANT, this is largely because this is the most obvious place to start an examination of agency, and because it has been a long-standing difficulty for critics of the theory. We are less concerned with Latour's deconstruction of the role of science in modernism and (in this respect ANT is at least as far away from traditional IS interests as structuration theory, despite a more technological orientation) and more concerned with good, socially sensitive explanations of IS phenomena. In this respect McMaster and Wastell's focus on Latour's project is a straw man—here may be some theorists who adopt crude polarising positions, but, as we pointed out in the original *problem of agency* paper, IS researchers hardly ever do. IS researchers find different ways to theorize man/machine hybrids, with different conceptual backgrounds. When it comes to ANT as a plausible explanation of IS phenomena, we admire the principal of analytical symmetry (treat things in an equivalent fashion) and its associated analytical scepticism (don't take conventional wisdom for granted). It's less clear that ANT provides a set of concepts that facilitate analytical symmetry in the IS field—the conceptual apparatus often implies anthropomorphised non-human actants with quasi human capabilities. This gives a superficial frisson of theoretical excitement, but is hard to apply in

analysis. Whereas analytical symmetry may be a useful principle, ontological symmetry is not (what's the meaning of asserting that a human and a non-human actor *are* symmetrical); however the two are much confused in ANT rhetoric.

Hanseth suggests that instead of focusing on symmetry, we should focus on the ANT notion of *hybrid collectif* (hybrid collective). "Humans and technologies" he writes "are not equal or symmetrical beyond the fact that they are, when they act, parts of a hybrid collectif which should be seen as the 'real' actor" (p. 161). McMaster and Wastell go further: "only collectives can act." We don't agree that this removes the problem of agency for ANT theorists. What constitutes the 'real' actor here is determined primarily by a shift of analytical focus. At the level of the travel industry "Boeing 747s do not fly, airlines fly" (Latour 1999, p. 117). The airline is an assemblage of human and non-human actants which does not perform the function of an airline unless all the actants work together (however this is a trivial observation for the majority of IS theorists). At other analytical levels the statement is meaningless. A modern computer controlled airliner can take off, fly the Atlantic and land on another continent without human intervention. The airliner can still fly if the airline is absent (Lamar Hunt owned his own 747). The pilots are flying the plane in the sense of controlling all the various flying technologies. The passengers are 'flying' but that's only a semantic coincidence, they are not agents in the flying process. ANT is partly a process theory about how heterogeneous human and non-human components come to be stabilized in networks, which then become components in other networks. We're therefore entitled to consistent and believable explanations of how those components *act* in the formation of networks or collectives.

4 On ERP Systems as Examples of the Problem of Agency

McMaster and Wastell point out that our case studies are (necessarily sketchy) narratives constructed for a particular purpose: to illustrate common IS perspectives on the relationship between ERP and organisations, and human and machine agency. They make their own short analysis in relation to actor network theory, finding that the third analysis is the closest to their own perspective. We observe here that we should be careful not to put the theoretical cart before the empirical horse. We are traditional enough to want to have our the-

J. Rose, M. Jones & D. Truex • 191

oretical explanations fit the empirical facts, rather than evaluating the empirical evidence according to whether it fits our favourite theories.

5 On Agency, and the Problem of Agency

Holmström appears to believe that we advocate combining structuration theory and actor network theory, but we didn't intend to convey this. Part of the point of demonstrating the two theories' different accounts of agency is to demonstrate how irreconcilable they are. We instead use the theoretical discussion to focus on a problem which we believe to be fairly general across the field. We suggest that critical reflection on these two popular theories may be a suitable starting point for achieving a more coherent account of agency in the IS context. To the extent that we can surface and explore the treatment of agency in different social theories, we can clarify differences and strengths and weaknesses of particular theories in particular settings, establish some common vocabulary and translation between theories, and hence enable a richer understanding of agency. If we could establish a shared understanding (in general terms) then this would provide a firmer basis for discussion of agency with respect to IS, and avoid (some) confusions and miscommunication. Even going some way towards this should improve communication, enabling a more constructive debate. However, Walsham took the sixth challenge in *the problem of agency* paper (building integrative theory about agency) to mean that we advocated bringing the various theories of agency together in "one grand theory of agency" (p. 156). We accept that we formulated this challenge a little carelessly, so that it could easily be taken to mean this. It should be apparent by now that we are not much for grand theories. Our understanding of theory progression is expressed nicely by Holmström and we discuss this in the next section. Integrative theory is discussed elsewhere (Rose et al. 2004) as an alternative process to theory adaptation (taking a theory from another discipline and adapting it for IS use).

Orlikowski agrees with our analysis of structuration theory and actor network theory. Even if we were to accede to the arguments of the ANT enthusiasts and agree to focus on the agency of hybrids it would still be the case that "structurational perspectives reflect the humanist tradition of making the human subject the center of the action, while actor-network perspectives adopt a post-humanist stance with their decentering of the human subject" (p. 184). Drawing on Jones (1999), she proposes terminological changes: 'human agency' but 'material performativity' which both recognize and distinguish but don't equate the concepts. We think this is a useful suggestion (see also

Collins and Kutsch's (1998) distinction between human action and machine behaviour), but would like to be careful about avoiding privileging either humans or machines (we're not so symmetrophobic after all!), and point out that better theorisations are also needed to back the terminology up.

We made some suggestions for the direction this theorisation might take (which are not substantially different from Orlikowski's). We also provided a metaphor: the double dance of agency. As McMaster and Wastell remorselessly (and wittily) point out, a metaphor is a feeble substitute for a theory, but we are not quite so naïve as we appear and we have another card up our sleeve. The double dance of agency is given a much fuller theoretical treatment in Rose and Jones (2005).

6 On the IS Field and Development of Theory

Walsham prefers to "encourage a thousand theoretical flowers to bloom" rather than try to build integrative theories about agency. We discussed earlier a difference in understanding about what an integrative theory might be (another flower, not a lawnmower). However, several authors share concerns about the way we (the IS community) use the various theoretical flowers we find in the surrounding meadows. Hanseth is concerned about consumerism in the importing and application of social theories, where a theory becomes fashionable for a short period, to be replaced by another without leaving noticeable traces in the collective memory. He points to some technologically-oriented theories which could be more relevant candidate reference theories than many we have chosen to import. He would like to see a move to developing and exporting theories, primarily design theories. However design theories (besides posing particular justification problems), are based on explanatory and descriptive theories (Walls et al. 1992). We should also like to see these explanatory and descriptive flowers flourish. Holmström focuses on "what came before and what comes next" P. 167), locating theory in the cumulative tradition ("ongoing discourse"), and using it to orientate the trajectory of the discipline. Our way of doing this is through theoretical problem setting. The *problem of agency* is both located in the discipline tradition, and sets a specific research agenda. Another way of doing this is embodied in Walsham's description of his GIS work. A plurality of theoretical resources contributes to the analysis, which is thus well located in the discipline discourse (rather than the current trendy theory) and moves the discourse on.

J. Rose, M. Jones & D. Truex • 193

The contributors all share a concern for tending the IS theoretical garden. They want to see the right flowers flourish (some of the meadow flowers are weeds in the IS garden), see them arranged in attractive but natural patterns, attend to the continuous development of the garden from year to year, and develop some subtly beautiful new flower varieties which they could sell to other keen gardeners.

That is certainly as far as that analogy will stretch!

7 Conclusions

Having considered some major themes from the five commentary papers we now return to the original argument from the 'Socio-theoretic Accounts of IS: the Problem of Agency' paper. It seems we inadvertently gave the impression that we wanted the IS community to develop a grand theory of agency which would replace other theories, but this is not the case. We point to a problem in the way we adapt reference two theories (incompatible accounts of agency) show that it is generalizable to other IS issues (for instance accounts of ERP system implementation) and suggest some directions for progress towards more consistent accounts of agency. It may be that ANT theorists will not accept our formulation of the problem, but we still conclude that they have some agency issues to address if they want to develop ANT to be a believable and consistent descriptive theory of IS phenomena. We agree that terminological precision is part of the solution to the problem of agency, but still maintain that we could do with some better theorisations of it. We still think there is value to the basic idea of identifying underlying theoretical problems in the field and trying to solve them. The problems are *our* problems, not the problems of the disciplines that we borrowed the theories from, and the consequent theory developments are, good or bad, *our* theories.

References

Collins, H., and Kusch, M. *The shape of Actions: What humans and machines can do*, The MIT Press, MA, 1998.

Jones, M. "Information Systems and the Double Mangle," in *Information Systems: Current Issues and Future Changes,* T. J. Larsen, L. Levine and J. I. DeGross (eds.), OmniPress, New York, 1999, pp. 287-302.

Latour, B. *Pandora's Hope: Essays on the Reality of Science Studies*, Harvard University Press, Cambridge, MA, 1999.

Rose, J., and Jones, M. "The Double Dance of Agency: A Socio-Theoretic Account of How Machines and Humans Interact," *Systems, Signs and Actions*, (1:1), 2005, p. 19-37.

Rose, J., Lindgren, R., and Henfridsson, O. "Socio-Technical Structure: Competence Systems at Volvo IT," in *IFIP TC8/ WG 8.2: Relevant Theory and Informed Practice,* B. Kaplan, D. Truex, D. Wastell, A. T. Wood-Harper and J. I. DeGross (eds.), Kluwer, Manchester, 2004, pp. 411-433.

Walls, J. G., Widmeyer, G. R., and El Sawy, O. A. "Building an Information System Design Theory for Vigilant EIS," *Information Systems Research*, (3:1), 1992, pp. 36-59.

J. Rose, M. Jones & D. Truex • 195

196 • J. Rose, M. Jones & D. Truex