

APPLYING THE MORPHOGENETIC APPROACH
Outcomes and Issues from a Case Study of Information
Systems Development and Organisational Change in
British Local Government

BY

IVAN HORROCKS¹

The Open University
i.j.horrocks@open.ac.uk

Abstract. With its emphasis on analytical dualism and its detailed account of the concepts and methods necessary for its application, Margaret Archer's morphogenetic approach seems to provide significant potential for empirical research. Over a decade after its publication, however, the potential of the approach remains largely unrealised. This paper seeks to begin to address this situation by reporting on and assessing the application of the morphogenetic approach to a longitudinal case study of information systems (IS) development and organisational change in British local government. This assessment confirms Archer's claims for the approach's value as an instrument for the production of non-conflationary practical social theory. In addition, certain features of the methodology moved the analysis of IS and organisational change beyond that of more mainstream approaches used for this type of research. However, a range of issues are identified which demonstrate that the complexity and resulting resource intensity of the approach may well work against its more widespread adoption for empirical research.

Keywords: agency, conflation, culture, governance, government, information and communication technology (ICT), information systems (IS), morphogenetic, organisational change, research methods, structure

1. Introduction

In *Realist Social Theory: The Morphogenetic Approach*, Margaret Archer states that her work provides the 'methodological complement' to critical real-

¹ Department of Communication and Systems, The Open University, Milton Keynes, UK, MK7 6AA. Thanks are due to David Tyfield and two anonymous referees for many helpful comments and suggestions on earlier versions of this paper.

ism.² And yet, nearly a decade later, Carter and New were able to state that despite some attempts to apply Archer's approach, 'at present, its potential for empirical research has yet to be realised'.³ With some exceptions this situation remains largely unchanged today.⁴

The reluctance to engage with Archer's work has undoubtedly provided ammunition for those who are hostile to critical realism and maintain that while it may have value in management and organisational studies, 'with respect to central questions of ontology and epistemology and to inform empirical studies with this awareness', it offers little of value beyond this.⁵ This paper seeks to begin to address this criticism, and the reluctance to use Archer's approach, by reporting on the application of the morphogenetic approach to an example of empirical research: specifically a 15-month longitudinal case study of information systems (IS) development and organisational change in a large British local authority (for reasons of anonymity referred to throughout as Council X).

The initial reason for utilising Archer's work, however, had little to do with either of the concerns noted above; it was an attempt to adopt a research approach that gave equal prominence to structure and agency. As I discuss below, this contrasts with the theoretical perspectives, or frames of reference, that provide the usual starting point for researching IS and organisational change in either the public or private sectors. To a greater or lesser extent these all share a tendency to conflation, treating either agents or structures as largely epiphenomenal to the other. However, throughout the 1990s a number of scholars of IS sought to adopt non-conflationary approaches, and the aim of the research on which this paper is based was to follow this exam-

² Margaret Archer, *Realist Social Theory: The Morphogenetic Approach [RST]* (Cambridge: Cambridge University Press, 1995), 167.

³ Bob Carter and Caroline New, eds, *Making Realism Work: Realist Social Theory and Empirical Research* (London: Routledge, 2004), 18.

⁴ E.g. Paul Morton, 'Using critical realism to explain strategic information systems planning', *Journal of Information Technology Theory and Application* 8(1) (2006): 1–20; Alistair Mutch, 'Critical realism, managers and information', *British Journal of Management* 10 (1999): 323–33; Stefan Morén and Björn Blom, 'Explaining human change: on generative mechanisms in social work practice', *Journal of Critical Realism* 2(1) (2003): 37–60; Ruth Kowalczyk, 'Tracing the effects of a hospital merger' and Denise Thursfield and John Hamblett, 'Human resource management and realism: a morphogenetic approach', in *Critical Realist Applications in Organisation and Management Studies*, eds Steve Fleetwood and Stephen Ackroyd (London: Routledge, 2004); Tone Skinningsrud, 'Realist social theorising and the emergence of state educational systems', *Journal of Critical Realism* 4(2) (2005): 339–65.

⁵ Alesia Contu and Hugh Willmott, 'You spin me round: the realist turn in organization and management studies', *Journal of Management Studies* 42(8) (2005): 1645–62 (1645).

ple.⁶ With its emphasis on analytical dualism the morphogenetic approach offered a means to this end.⁷ First – and obviously – because it is non-conflationary. Second, because Archer's very detailed account of the features of the morphogenetic approach provide a template for its application. And third – and of particular significance to someone researching organisational change – two of the core objectives are

to set out as clearly as possible the conditions under which morphogenesis versus morphostasis ensues from particular chains of socio-cultural interaction, as conditioned in a prior social context. [And to] account for the form (though not the substantive content) of social elaboration to take place ... Since what eventually transpires at the level of events is a combination of the tendential and the contingent, the aim cannot be to furnish a predictive formulae but rather an explanatory methodology for the researcher to employ, namely the analytical history of emergence.⁸

This paper is organised into six sections. The first introduces the paper. The second explains the background to the selection of the morphogenetic approach as the basis for studying Council X and thus provides a comparative context for the use, and value, of the morphogenetic approach. The third section outlines the morphogenetic approach and summarises some features of the approach that were particularly useful to this research. The fourth section introduces Council X and draws on material produced by the application of the morphogenetic approach to outline some of the key structural and cultural properties and powers that predate the start of the longitudinal study but which created the situational logics for the different forms of strategic action and modes of interaction (to use Archer's terminology) observed during the research. The penultimate section identifies a range of issues which arose from the application of the approach. I conclude by suggesting that the complexity and resulting resource intensity of the morphogenetic approach may well work against its more widespread adoption for empirical research. That said, it is important to emphasise that there were a number of elements of the approach which moved the analysis of IS and

⁶ E.g. Wanda Orlikowski and Daniel Robey, 'Information technology and the structuring of organisations', *Information Systems Research* 2(2) (1991): 143–69; Wanda Orlikowski, 'The duality of technology: rethinking the concept of technology in organisations', *Organization Science* 3(3) (1992): 398–427; Alistair Mutch, 'Actors and networks or agents and structures: towards a realist definition of information systems', *Organization* 9(3) (2002): 477–96.

⁷ Archer, *RST*; also M. Archer, 'Realism in the social sciences', 'Realism and morphogenesis' and 'Addressing the cultural system', in *Critical Realism: Essential Readings*, eds M. Archer, et al. (London: Routledge, 1998), 189–205, 356–82, 503–43; M. Archer, 'Realism and the problem of agency', *Journal of Critical Realism* 5(1) (2002): 11–20.

⁸ Archer, *RST*, 294.

organisational change, and thus the exposure of the causal mechanisms at work in the case study organisation, significantly beyond approaches used previously by the author. Consequently, this paper confirms Archer's claims for the morphogenetic approach's value as an instrument for the production of non-conflationary analytical histories of emergence.

2. *From Informatisation to the Morphogenetic Approach*

The origins of this paper lie in research that focused on informatisation: a 'Europeanised' term that was used in public administration through much of the 1990s to refer to any one or more of the following undertaken in a governmental and/or public sector setting:

- the application of ICT [information and communication technology] in order to (re-)shape important parts of information processing and communication facilities;
- the introduction of specialised expertise in the area of information processing (officers, departments, and organisations with explicit tasks and responsibilities);
- the (re-)establishment of internal and external information flows and information relations;
- the development of information policies within and between organisations;
- the redesign of internal and external organisation structures and work processes that are related to the introduction of ICT.⁹

Although not explicitly acknowledged through the 1990s within the informatisation or IS domains, the two disciplines are basically the same. Furthermore, the similarities became ever more pronounced as both the informatisation and IS research domains expanded their boundaries to encompass more and more of the social alongside the technological when defining what is and is not an information system. For these reasons I will use the IS acronym here both as a replacement for informatisation (wherever possible) and as a term that encompasses ICT.

Over the years the trajectory of IS research and theorising in public administration followed similar paths to those taken by scholars of IS from the mainstream disciplines of management and organisation studies. By the

⁹ Wim van de Donk and Ignace Snellen, 'Towards a theory of public administration for the information age?', in *Public Administration in an Information Age [PAIA]*, eds Ignace Snellen and Wim van de Donk (Amsterdam: IOS Press, 1998), 6.

latter part of the 1990s, therefore, the informatisation fraternity had begun to be influenced by theories of the social construction of technology: that 'technology cannot be regarded as a given (as in technological determinism), but must be seen as socially constructed like all other social phenomena. The object of study ... is therefore the processes through which a given technology is socially constructed'.¹⁰ Nevertheless, in some quarters earlier socio-technical and processual approaches remained strong. Consequently a good deal of informatisation research continued to focus on such things as the relationship between technology and institutional and organisational structures and policies, and the computerisation of the 'tools of government'.¹¹ In short, while there was an increasing recognition of the importance of agency as well as structure in studies of IS in the public domain, research tended to polarise around one or the other. This is not meant to suggest that researchers were necessarily conflationist, although clearly some were, but that constraints of some form or another often limited the scope of research to either structures or agents. I would contend, however, as Archer does, that the complexity of the relationship between structure, culture and agency 'remains hopelessly indefinite unless the interplay between them is unravelled over time to specify the where, when, who and how – otherwise we are left with the vagaries of mutual constitution'.¹²

As I noted in the Introduction, throughout the 1990s a small number of scholars of IS began adopting a non-conflationary approach to their work. Doctoral research offered an opportunity to follow this lead and, through use of the morphogenetic approach, attempt to capture the 'interplay' of structure and agency and how they shape and reshape one another over time. By so doing I aimed to provide an account of the variable social outcomes of IS developments and organisational change in the public domain, albeit in only one case study organisation.

3. The Morphogenetic Approach: A Brief Overview

Archer argues that the morphogenetic approach provides the means to operationalise analytical dualism and thus bridge the methodological gap between the 'explanatory power of practical social theory and the ontologi-

¹⁰ Jens Hoff, 'Technology and social change: the path between technological determinism, social constructivism and new institutionalism', in *Democratic Governance and New Technology*, eds Jens Hoff, Ivan Horrocks and Pieter Tops (London: Routledge, 2000), 14.

¹¹ Helen Margetts, 'Computerising the tools of government', in Snellen and Donk, *PAIA*, 441–57.

¹² Archer, *RST*, 274.

cal strength of the realist philosophy'.¹³ The outcome is a three-stage morphogenetic cycle (Figure 1) that covers structure, culture and agency, 'each of which has relative autonomy and yet interacts with the others'.¹⁴ How they 'emerge, intertwine and redefine one another' over time, therefore, becomes an overarching concern of researchers.¹⁵

Although analytically and temporally separable, the three interrelated cycles of emergence – interplay – outcome are continuous and, therefore, 'when studying any given problem and accompanying periodisation, the projection of the three backwards and forwards would connect up with anterior and posterior morphogenetic cycles'.¹⁶ The delineation of the cycles is according to 'the scope of the problem in hand' with each cycle containing the same three core stages.¹⁷ The result is that it becomes possible to set out the conditions under which change or reproduction is likely to occur in social/structural/cultural contexts and produce an analytical history of this without having to resort to a determinist approach.

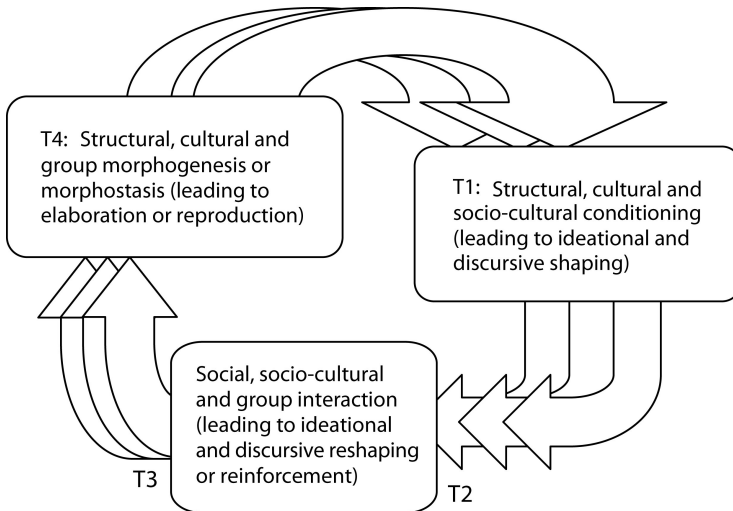


Figure 1 A multi-dimensional cycle of change

The first step on the morphogenetic cycle (T1) 'is to supply an account of how the powers of the "parts" condition the projects of the "people"

¹³ Ibid., 192.

¹⁴ Ibid., 192–3.

¹⁵ Ibid., 76.

¹⁶ Ibid., 76.

¹⁷ Ibid., 274.

– involuntaristically [*sic*] but also non-deterministically, yet none the less with directionality'.¹⁸ It is worth adding, however, that although this is an involuntaristic [*sic*] action, and thus wholly objective, Archer reminds us that there are a range of factors that come into play which impact on how agents react to the structured and shaped situations in which they find themselves.

The first is that people have reflexive powers, which means that conditioning is not a 'law' or a 'force' but a reason and that we enjoy interpretative freedom in respect to this.¹⁹ However, in exercising this freedom, and therefore in responding to the 'directional guidance' that structural and cultural conditioning brings into being, we are influenced by two further factors – vested interests and opportunity costs – which 'condition both interpretation and action'.²⁰ Archer goes on to detail a wide range of features of morphogenetic cycles. However, given space constraints I am only briefly going to highlight a few features that proved particularly insightful and/or of practical use in the context of Council X.

3.1. *Differentiating actors, agents and people*

In theories of social systems based on the conflation or elision of structure and agency it is common to find the terms person, people, individual, agent and actor used interchangeably. However, this ignores the fact that agency is not static – people in different settings have different emergent properties. Therefore, Archer argues that a stratified distinction, between humans as individuals, as people with roles and positions, and as groups and collectivities who may be more or less 'powerful' in decision-making situations, needs to be advanced.²¹ From this argument the distinction between *corporate* and *primary* agents proved particularly valuable when researching Council X.

At any given time primary agents can be distinguished from corporate agents because the former 'lack a say in structural and cultural modeling ... [T]hey neither express interests in nor organise for their strategic pursuit, either in society or a given institutional sector'.²² This does not, of course, preclude people who are primary agents in one context being corporate agents in another because 'these categories are *not fixed but mobile* over

¹⁸ Ibid., 201.

¹⁹ Ibid., 208.

²⁰ Ibid., 209.

²¹ Archer, *RST* and 'Realism and the problem of agency', *Journal of Critical Realism* 5(1) (2002): 11–20.

²² Archer, *RST*, 259.

time'.²³ Meanwhile corporate agency shapes the context in which all actors operate. This is usually not in a way that any particular agent would prefer but as a consequence of corporate interaction. 'Primary Agency inhabits this context but in responding to it also reconstitutes the environment which Corporate Agency seeks to control. Primary Agency then unleashes a stream of aggregate environmental pressures and problems which affect the attainment of the latter's promotive interests'.²⁴

In the context of a micro-level study of an organisation such as Council X, breaking away from employing no distinction between actors and agents allowed the identification of, and clear distinctions to be drawn between, the actions and interactions of actors as individuals and as members of a variety of groups that could be classified as corporate agents with more or less influence over, and within, causal processes. Furthermore, where previous research had highlighted the role of 'project champions'²⁵ in IS development it now became possible to differentiate between their role (and influence) as actors and members of groups (of corporate or primary agents). Thus, for example, it became possible to venture a far more fine-grained explanation as to why after initial successes project champions were often unsuccessful in their endeavours, even when their resources and power were significant. The discussion of Council X, below, contains further examples.

3.2. *Structural and cultural integration or divergence*

Integration or divergence applies to both the structural and cultural systems because of 'the relative autonomy of structure and culture'.²⁶ Thus, there may be congruence in the 'structural domain' while there is incongruence in the 'cultural realm', in this case creating a situation where structures would be in morphostasis while cultures undergo morphogenesis.²⁷ In addition, Archer is clear that it is 'the relationship between second-order emergents [that] are of particular relevance to morphogenesis or morphostasis, since the incidence of complementarities serves to identify the potential loci of systemic

²³ Ibid., 259, original emphasis.

²⁴ Ibid., 260.

²⁵ E.g. Christine Bellamy, Ivan Horrocks and Jeff Webb, 'Exchanging information with the public: from one stop shops to community information systems', *Local Government Studies* 21(1) (1995): 11–30.

²⁶ Incongruence and incompatibility, congruence and compatibility, and integration and divergence, are all used interchangeably by Archer when discussing whether systemic and cultural integration is strong or weak.

²⁷ Archer, *RST*, 215.

reproduction and the occurrence of incompatibilities the potential loci of systemic transformation'.²⁸ Focusing on second-order emergents therefore provides us with 'the bridge between real but unobservable systemic properties (complementarities and incompatibilities) and their impact upon daily experience at the level of events'.²⁹ Second-order emergents are, therefore, experienced as 'operational obstructions and practical problems, frustrating those upon whose day-to-day situations they impinge, and confronting them with a series of exigencies which hinder the achievement or satisfaction of their vested institutional interests'.³⁰ Figure 2 illustrates this dynamic and the relationships produced by different situational logics, which then motivate agents to pursue any one or combination of four different modes of interaction: defensive, concessionary, competitive and opportunistic.

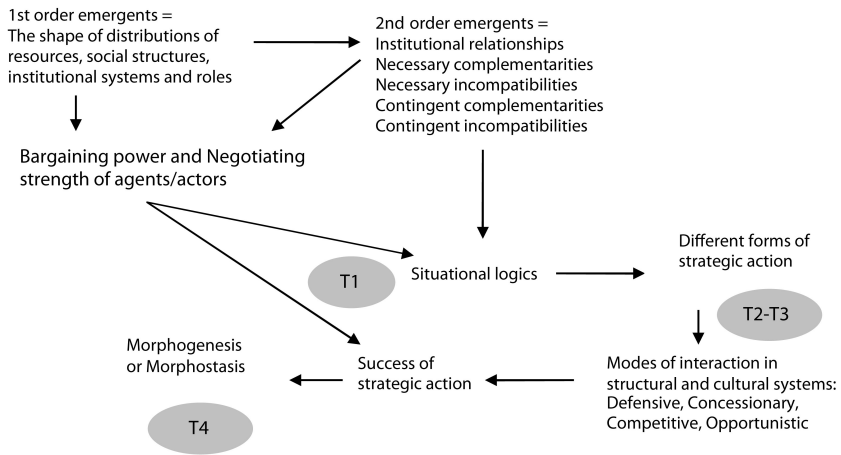


Figure 2 The relationship between first- and second-order emergents, interactions and outcomes

In the context of Council X it became clear that first-order emergents (structures, systems and roles/positions and the bargaining power of agents) were largely caused by the generative powers of the policies and practices of the European Commission and UK central government; for example, the review and subsequent revision of the structure of local government in 1974, and the privatisation of public services that began in the 1980s.³¹ These

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Steve Leach, John Stewart and Keiron Walsh, *The Changing Organisation and Management of Local Government* (Basingstoke: Macmillan, 1994), 15–45.

policies were more often than not conditioned and shaped by more general changes in cultural and structural systems at an international level, such as the rise of neo-liberal economics.³²

Second-order emergents within Council X arose from the complementarities and incompatibilities brought into being by first-order emergents. The imposition by central government of cuts in the funding of local government, at the same time as implementing other policies that demanded local authorities took on more responsibilities, would be one example. The human and material resources that had to be diverted into responding to the Local Government Review (LGR), discussed below, would be another. The resulting institutional relationships created situations which meant that corporate agents had far less scope – both ideationally and structurally – to pursue strategic actions to develop policies that required resources, and this, in turn, impacted on the modes of interaction corporate agents employed within Council X. One significant example was the inability to replace the aging mainframe computer with networked PCs, thus creating ‘operational obstructions and practical problems’ for both corporate and primary agents.

3.3. *Morphogenesis or morphostasis?*

The final feature of the morphogenetic approach that I would briefly mention as of particular significance to the analysis of Council X is Archer’s proposition that when morphogenetic/static cycles of structure and culture are synchronised then there are ‘reciprocal influences’ between them and when they are out of sync one will be ‘more consequential for the other, temporally and temporarily’.³³ By theorising what the condition and interplay of structural and cultural morphogenesis/stasis is at any given time Archer argues that it becomes possible to explain ‘what actually results under various conditions of conjunction and discontinuity [of institutional relationships], due to what agency does in different circumstances’.³⁴ In short, it may or may not be the case that structural and cultural morphogenesis/stasis are synchronised. As the discussion below demonstrates, this was a significant factor for IS development and organisational change at Council X.

³² Ken Young and Nirmala Rao, *Local Government Since 1945* (Oxford: Blackwell, 1997), 148–93.

³³ Archer, *RST*, 308.

³⁴ *Ibid.*

4. *The Case: Council X*

To remain consistent with previous sections of this paper the discussion that follows continues to use the terminology of the morphogenetic approach in order to illustrate how it contributed to the analysis.

4.1. *Organisational change and the decline of systemic and social integration*

Prior to 1989 the structure and function of Council X followed the traditional hierarchical model of service departments (e.g. education, social services, leisure, etc.) and matching committees that was at that time common to almost all local authorities in Britain. The management of Council X was similarly structured, with service departments presided over by a central services department, which incorporated, and was steered by, a powerful central policy unit overseen by a chief executive. A policy and resources committee had the ultimate say over the allocation of resources, which were then controlled from the chief executive's office.

1989 saw the arrival of a new chief executive with progressive ideas concerning the structure and management of local government. Unsurprisingly these ideas resonated strongly with the thinking of the Conservative government of the time and of the Conservative majority that controlled Council X until May 1990. The result was the implementation, in early 1990, of:

- an aggressive and comprehensive policy of organisational and managerial decentralisation and devolution; and
- a rapid and extensive programme of contracting out and privatisation (largely in advance of central government legislation).

The programmes of decentralisation, devolution and privatisation – the three policies went hand-in-hand – were implemented rapidly. Consequently, by late 1991 structural change (i.e. morphogenesis) was well advanced, with almost all responsibility for departmental policy-making and resource allocation transferred to corporate agents within service departments. This process of 'hollowing out' went much further, however, with many functions that had traditionally been treated as centrally managed cross-organisational activities – such as IT services and support, strategic planning, estates management, etc. – contracted out, abolished or downgraded because they were no longer considered crucial to the operation of the new managerial and organisational structure. As the council's IT contract monitoring officer explained, this set Council X apart from the vast majority of local authorities because: 'there are very few councils who have contracted out to the extent that we did or so long

ago [*sic*] ... So I just get the impression that what we've done is unusual ... full contracting out plus full devolution of power to departments. I think that puts us in a very unusual position'.

4.2. *Reshaping the bargaining power and negotiating strength of agents*

As with the vast majority of British local authorities prior to the 1980s, decades of relatively little change had led to a high degree of structural and cultural integration within Council X. In addition, cycles of cultural and structural change had largely become synchronised, leading to the emergence of an attitude to organisational change that was largely consensual and incremental. 'Hollowing out' rapidly changed this environment, creating a situation where contradictions and incompatibilities between cultural and structural systems became commonplace, and the morphogenesis of culture and structure became largely unsynchronised. One of the most noticeable outcomes was that as the relative power of corporate agents at departmental level rapidly increased, that of corporate agents associated with what had been the central services department and chief executive's office decreased just as rapidly. The nature of social relationships and interaction also changed, because, in most cases, departmental agents and actors were no longer dependent on their centrally based colleagues for resources. Thus, relationships that pre-1989 had been internal and necessary now became largely contingent, or reversed, so that staff from what remained of the chief executive's office now had to gain the approval of, and then request resources from, their departmental colleagues if they wished to progress almost any policy initiative.

As might be expected, corporate agents that had a strong affinity to the new structural forms were keen to promote acceptance of these changes by encouraging cultural morphogenesis, although the evidence was that this was largely directed at other corporate agents rather than staff in general. Acceptance seemed to be a slow process, however, as the examples discussed below illustrate. Consequently, by the point at which fieldwork for the research reported here started (i.e. T1 in Figure 1), the extent of cultural morphogenesis was noticeably limited in many parts of Council X and appeared particularly so amongst primary agents, with the result that many of the staff on lower salary grades appeared hostile or, at most, ambivalent to the policies of organisational change.

One of the main reasons for this was the fact that between 1990 and 1995 the privatisation policies of Council X were only contingently related to central government actions because there was no material relationship (i.e. policy or resource) involved. In other words, and as I noted above, it

was voluntary. This failed to impress many staff, who contrasted their experience with that of almost all councils in Britain where the norm was to resist such developments until forced to implement them through central government legislation, or other penalties such as cuts in funding.³⁵ Thus contracting out was regarded as an external structural force, whereas the staff of Council X saw the situation reversed, and it was regarded as of the Council's own making. Therefore, while criticisms of the services provided to Council X by contractors were widespread, particularly in the field of IS, actors and agents almost always regarded this as fundamentally due to the actions of the senior management of the council, and the attitudinal effects on staff of this belief – and on primary agents in particular – were particularly marked. Nevertheless, despite the slow rate of cultural morphogenesis, what the landscape of Council X looked like by the mid-1990s was tellingly captured by one of the assistant chief executives: 'The authority used to be the traditional, centrally dominated, "Stalinist" council. Decentralisation got rid of that. But now we have lots of Stalins, each with their own empire'.

The rapid emergence of groups/corporate agents, whose views were that their interests were no longer served by taking a collaborative and holistic approach to their work, subsequently led to further structural fragmentation at *intra*-departmental levels. Furthermore, where devolution and the lack of central management and leadership combined with weak intra-departmental management, this caused the formation of ever smaller and more localised interest groups, each able to operate as their own corporate agent. This had a profound impact on IS developments, as the manager of the financial planning unit (part of the treasurer's department), amongst others, confirmed when they explained that: 'The problem is everybody has gone their own way as far as IT is concerned across Council X and even within the Treasurer's department'.

4.3. *Privatisation and IS development*

The privatisation of the services provided by the central IS department was particularly far reaching. It included: troubleshooting and repair, training, advice and support functions, facilities management, hardware and software purchase, bespoke design services, corporate IT policy and strategy, and the operation and management of the mainframe computer. Nearly one hundred of the council's staff transferred to the private sector company that then

³⁵ David Wilson and Chris Game, *Local Government in the United Kingdom [LGUK]*, 2nd edn (Basingstoke: Macmillan Press, 1998), 307–11.

won the IT contract and the department was wound up. In morphogenetic terms, therefore, this can be conceptualised as a radical process of enforced structural morphogenesis carried out by a powerful corporate agent.

Of course, a policy involving structural change as dramatic as this was not adopted without some dissent. Senior management in one department argued that the experience of other local authorities indicated that Council X should keep in-house IT capacity as large as possible (given the limitations imposed by central government). However, these objections were overruled. As one of the department's assistant directors explained: 'we were a minority on that. The whole lot, the whole central information services was externalised. There's nothing left, which is an incredible situation when you think about it'.

Unfortunately the vision that the senior management group had of the service that the new IT contractor would provide, and that it was assumed service level agreements (SLAs) would ensure, soon proved awry. In reality the IT contract worked against many of the structural changes caused by decentralisation and devolution. Particularly significant was that devolved and decentralised systems and practices required flexible IS to support them. Instead the IT contract had been drafted on the basis of historical structures and practices, and estimates of what the structures and functions of Council X might be after decentralisation, devolution and privatisation. The result was that contracting out simply added further contradictions and incompatibilities, with the added complication that contractual obligations, combined with central government legislation, presented agents with little chance of escaping from the relationship with the contractor.

4.4. The freedom of agency and the divergence of situational logics and forms of strategic action

The difficulties agency faces in escaping the conditioning and shaping of previous cycles of morphogenesis, particularly when situational logics and forms of strategic action are constrained by first- and second-order emergents, are highlighted by the morphogenetic approach. Significantly, however, empirical evidence from the relatively local levels of the position-practice system of Council X again supports the critical realist assertion that however powerful these contextual features might be, ultimately this judgement has to be non-deterministic as agency always retains the power to act in a variety of ways.

Although it was generally assumed within Council X that there was little scope for freeing IS development from the structural influences that emerged from privatisation and organisational restructuring, some actors and agents

were successful in this endeavour. For example, corporate agents in both the education and social services departments found the means to buy back key research and intelligence staff from the contractor. The County Engineer's department also gradually built up in-house IT support deliberately to circumvent the need to use the contractor's services (which one interviewee bluntly described as 'crap'). Unfortunately, and despite repeated attempts to gain an explanation, it proved impossible to find out how this was done, although certain actors and agents had clearly been able to manipulate systems and material resources in such a way as to circumvent the structural constraints of contracting out. More significant, perhaps, was that this had often been done without the knowledge of actors and agents elsewhere in the council, and because of the need to protect their new 'interests', a culture of secrecy developed. Furthermore, while it was obviously advantageous to particular actors/agents to circumvent the generative powers and new structural and cultural forms of contracting out, it further aggravated the scale of systemic and cultural disintegration within Council X.

One of the most profound ways in which this situation then played out was through the breaking down of the structural, cultural and agential mechanisms that had allowed the coordination and maintenance of common IS standards and protocols across the organisation. The overall result, as a senior manager in the education department remarked, was that 'most people would say that the lack of coordination [on IT systems and applications] has been a disaster and it has created all sorts of unnecessary problems'. The situation was compounded further because of the privatisation of the IT intelligence and support functions. This left senior managers with a lack of research data to inform IS policy development. Furthermore, senior staff resented the fact that they now had to buy this 'intelligence' back, which meant they now had to deal with ex-colleagues (who had joined the contractor) in a formal manner, and in the knowledge that their time and advice further depleted very limited resources. As an assistant director remarked: 'IT was an integrated service in-house. They went out with it. I have to say it was a mistake'.

It should now be clear that the systemic and cultural incompatibilities and contradictions brought into being through the contracting out of IS, and the hollowing out of the council generally, as well as the impact this had on the situations of both primary and corporate agents, were dominant features of Council X at T1 of the field research. In closing this discussion of the case study organisation I want to briefly introduce another central government policy initiative the causal powers of which ultimately served to counteract fragmentation through the creation of new situational logics, particularly in the IS domain.

4.5. The Local Government Review (LGR) and the emergence of new situational logics and forms of strategic action

Announced in December 1991, the LGR was another example of a central government initiative aimed at affecting the structure of local government, albeit that the review process was dealt with by a (supposedly) independent commission. Central government argued that the tiered system of local government in Britain was the reason the general public failed to understand which councils were responsible for what services, why there was ‘overlap’, and who they should hold accountable through the ballot box for poor services and/or high council tax charges. To have a single tier or unitary system of local government throughout the country would do away with this confusion, bring local government ‘closer to the people’, and would make it cheaper and more efficient – or so the government claimed.³⁶

It is not appropriate here to delve into the LGR, only to record why it was significant to the argument in this paper. Indeed, it is only through the process of retrodution that is part and parcel of the morphogenetic approach, and of critical realism generally, that the causal significance of the LGR to outcomes several years later became apparent. Thus, although the review acted as a powerful constraint on agency for more than three years it also created a catalyst for ideational morphogenesis. This occurred largely through a lengthy process of socio-cultural interaction, initially within a ‘defence group’ of relatively senior staff from across the council whose task it was to defend Council X from potential abolition. Significantly, after the review was over this process of ideational morphogenesis continued amongst a small but steadily growing number of actors, most of whom subsequently became key members of another corporate agent – the partnerships project group. This ‘reformist’ group, allied with other ‘reformist’ actors, was instrumental in formulating ideas based on the (real or perceived) transformative potential of new ICTs and logically relating these to other ideas about organisational change (and to local governance in particular). They then took advantage of the resulting emergent properties to pursue forms of strategic action aimed at promoting their ideas more widely and gaining the resources to translate their ideas into practice. Ultimately this led to the formulation of a range of projects aimed at ‘joining up’ Council X and thereby counteracting – to some degree at least – the scale of systemic and social fragmentation that had occurred.

It is also worth noting that the ‘reformists’ pursued concessionary and opportunistic modes of interaction with other influential actors and agents

³⁶ Ibid.

outside Council X in an attempt to advance proposals for IS supported community governance that included ‘partnership’ working with other organisations, and remote access to the Council for citizens and local councillors. In short, what was observed was exactly the type of morphogenetic cycle that Archer argues occurs: ideas, theories, beliefs and values about IS (which constitute part of the cultural system of any organisation) that are, at any point in time, a product of previous socio-cultural interaction, then becoming the subject of morphogenesis through the emergence of new cultural properties.

5. Lessons from the Application of the Morphogenetic Approach

The purpose of the sample of material from Council X, above, was to illustrate both the nature of the case study and some of the analytical insights that application of the morphogenetic approach produced. In the penultimate section of this paper I want to contrast this with a discussion of some of the difficulties that arose during its use.

5.1. Causal mechanisms and powers

I would be ‘economical with the truth’ if I denied that the concept of ‘mechanisms’ had not proved to be one of the most time-consuming features of applying the morphogenetic approach to the case study. The reasons for this all relate in one way or another to debates in the critical realist literature about the nature of mechanisms – well summarised in the following quotation:

There followed, yet again, a lengthy discussion into the status of mechanisms. Are they emergent properties of certain relationships or social practices? Soon we had left the contextual features of tertiary education providers behind and were discussing the causal powers of the seminar, considered as a generative mechanism.³⁷

Space dictates that I do not rehearse this debate again here, as it is a general issue for critical realism rather than one specific to the morphogenetic approach. Suffice to note that Archer’s view (and therefore the one I worked to) is that generative mechanisms are not simply ‘social practices’. In addition, Archer argues that emergent properties are only emergent from internal and necessary relations: ‘Fundamentally, what distinguishes

³⁷ Caroline New, ‘Realising the potential: the ESRC seminar series on social realism and empirical research’, *Journal of Critical Realism* 4(1) (2001): 43–47 (44).

an “emergent property” is its real homogeneity, namely that the relations between its components are internal and necessary ones rather than seemingly regular concatenations of heterogeneous features’.³⁸ Again this contrasts with more open-ended definitions, such as treating mechanisms as social practices like seminars, meetings, etc., or even simply appropriate ideas and opportunities.³⁹ Clearly both of these definitions require qualification if we accept Archer’s argument that, while emergent properties and powers come into being through ‘social combination’, not all relationships give rise to them.

5.2. *Defining structural, cultural and people’s emergent properties*

As the concept of a causal/generative mechanism is central to realist analysis, clearly the definition adopted of what a mechanism is and how it comes into being is significant for the application and outcome of realist research. As the discussion above illustrates, some interpretations allow more leeway in how they are operationalised than others. Working to Archer’s definition meant accepting a rigid approach, as well as working with three types of emergent property – structural, cultural and people’s (SEPs, CEPs and PEPs in Archer’s shorthand) – and therefore three types of generative mechanism/causal power. This highlights the second dimension of the morphogenetic approach that proved problematic: identifying from the *data available* all of the features of SEPs, CEPs and PEPs that Archer stipulates, and thus the mechanisms that were likely to be causally efficacious to the case study.

SEPs ‘are specifically defined as those internal and necessary relationships which entail material resources, whether physical or human, and which generate causal powers proper to the relations itself’. SEPs are, therefore, ‘distributions [of resources], roles, institutional structures, social systems’.⁴⁰ Following this rubric several entities within Council X were identified as SEPs on the basis of their institutional structures and roles. However, Archer also states that as well as ‘entailing material resources, whether physical or human’, SEPs are ‘irreducible to people and relatively enduring’.⁴¹ Initially a range of entities that clearly fulfilled this criterion were identified.

However, defining SEPs became less clear cut on many other occasions. This is unsurprising when one considers that it is a convention in British

³⁸ Ibid., 173.

³⁹ Ray Pawson and Nick Tilley, *Realistic Evaluation* (London: Sage, 1997).

⁴⁰ Archer, *RST*, 177.

⁴¹ Ibid., 176, 177.

local government that if a number of actors form a group to explore a particular idea or pursue a project, they adopt agreed and published terms of reference, a formally constituted membership, and, crucially, usually enjoy internal and necessary relations with at least one 'sponsor' department. In short, social relations are almost always formalised, such as occurred with the LGR defence and partnership project groups discussed above. As a result these relations often become structures that are irreducible to people and relatively enduring, hence the oft-criticised tendency of government to bureaucratise and self propagate.

In a government/public administration context, therefore, the application of Archer's definition of a SEP may well be distorted when compared to similar types of social relations in other organisational settings. The conclusion drawn in relation to Council X was that groups such as those discussed above were SEPs. It is important to note, however, that other entities that did not exhibit all of the features of SEPs, and thus were only classified as 'contingently influential', also displayed strong causal influences that were in many cases significant to the morphogenesis of the structures, cultures and agents of Council X.

Although the issues highlighted here primarily arose when identifying the defining characteristic of SEPs, similar issues also arose with CEPs. Archer's definition of a CEP is that they are properties of the cultural system – 'relations between the components of culture' (i.e. ideas/theories/values/beliefs) – and independent of the socio-cultural 'relations between cultural agents'. Furthermore, Archer also argues that 'in asserting the existence of a CEP, we never need and never should descend from the logical to the causal'.⁴² However, based on my knowledge of the other case studies to which the morphogenetic approach has been applied, the contention here is that maintaining this example of analytical dualism is much more difficult when analysing contemporary or near contemporary data from the position-practice system of an organisation than it is with historical data, and/or when investigating higher strata such as institutional and social systems. Thus, for example, establishing the CEPs relevant to the intergovernmental systems of British central and local government between 1945 and the 1980s, or the neo-liberal economic theories and beliefs that increasingly dominated the socio-cultural systems of the developed world through the 1980s, was far more straightforward than defining contemporary CEPs within either British local government in general or the position-practice system of Council X specifically.

⁴² Ibid., 182–3.

That said, I have argued elsewhere that a range of contemporary ideas, theories and beliefs about IS and organisational change did enter the cultural system of Council X as CEPs, both before and during the period covered by my research.⁴³ Of particular significance, for example, was the belief/claim that the properties of new ICTs rendered geographical location relatively meaningless (this became a prominent argument within the LGR, discussed above), and that ICTs were/are fundamental to organisational 'reengineering'. These ideas/theories/beliefs escaped their makers, as Archer puts it, and became staples of the cultural systems of government and public administration across the developed world generally and, in variant, context-specific forms, in British local government specifically. The extent to which the generative/causal powers of these CEPs impacted on the cultural system of Council X was reflected most noticeably in the discourse of actors and agents, and ultimately in their actions and interactions within Council X and elsewhere.

The final category of emergent property is a PEP. This proved the least problematic to deal with because the activities and entities that modified 'the capacities of component members (affecting their consciousness and commitments, affinities and animosities) and exert[ed] causal powers proper to their relations vis-à-vis other agents or groupings' within Council X were often observable.⁴⁴ Previously mentioned examples include the LGR defence group and the partnership projects group. These, and other examples too numerous to mention here, all modified the capacities of participating actors and led them to exert causal powers on other agents/actors. So too did interaction within and between a wide range of corporate agents.

5.3. *Internal and necessary versus contingent relationships*

While the detailed descriptions of the defining characteristics of SEPs, CEPs and PEPs, and the discussion and examples of emergence that Archer provides proved invaluable to understanding and interpreting these concepts, when applied to an *empirical* case study the matter was not so straightforward. Two related activities proved particularly problematic. The first was identifying whether internal and necessary relations did exist and, if they did, whether they were reciprocal or asymmetrical. If internal and necessary relations could be identified then a generative mechanism had been identified.

⁴³ Ivan Horrocks, *Exploring Information Systems Development in British Local Government: A Morphogenetic Approach [EISD]* (Milton Keynes: Open University, 2006).

⁴⁴ Archer, *RST*, 184.

If there were no internal and necessary relations then the entity was simply an example of the 'contingent combinations of disparate elements from different strata which happen to co-manifest themselves at a given time'.⁴⁵

In the context of Council X there is no doubt that establishing a distinction between internal and necessary and contingent relationships between the collectivities and other entities of the position-practice system added analytical purchase, exposing the comprehensive range of causal relationships behind IS development and organisational change, the basis of these, and their dynamic nature (i.e. how they changed over time). However – and this is where things became complex and thus analytically messy – these entities were reliant on other entities, for other (mainly human) resources that were essential to their operation, and from which they also drew causal powers. In other words, there were a range of internal and necessary relations between entities, some weaker, some stronger, and some more clear-cut than others. In practice, separating the latter from what might best be described as strong contingent relations on the basis of the data available was no easy exercise.

5.4. *Working across morphogenetic cycles and stages*

The final aspect of the morphogenetic approach that requires comment concerns difficulties with analysing and ordering material on the causal processes associated with three simultaneous morphogenetic cycles across the T1 to T4 periodisation.

As noted earlier (Fig. 1), the three stages of the morphogenetic cycle cover structure, culture and agency, 'each of which has relative autonomy and yet interacts with the others'.⁴⁶ And based on the examples of the application of the morphogenetic approach referenced at the start of this paper, this certainly comes across as a relatively straightforward dynamic to work with. In each case the application of Archer's methods appear unproblematic, in terms of both the temporal dimensions and definable outcomes of the research. However, applying the morphogenetic approach to all three strata of Council X was not unproblematic. Specifically, the stages of morphogenetic cycles were often not easily definable, making the construction of a narrative that adequately and consistently explored and explained the causal processes, mechanisms and powers at work difficult and extremely time-consuming.

⁴⁵ Ibid., 173.

⁴⁶ Ibid., 192–3.

The reasons for what appear to be a divergence between my experience and that of others becomes clear when a comparison is made of how we have used the approach. The first concerns one of its key foci, namely temporality. In other words, the time period over which the stages of morphogenetic cycles occur. As noted above, Archer argues that the cycles should be delineated 'according to the scope of the problem in hand'. Archer then introduces the T1–T4 periodisation to represent the stages of emergence-interplay-outcome that constitute the morphogenetic cycle(s) of the 'problem', and it is here – the use of the T1–T4 periodisation – that my application differs from others. First, some use it and some do not, and where it is used it is often used loosely. Second, with the exception of Archer and Skinningsrud the time period over which the reported cycles of transformation or reproduction occur do not feature prominently, if at all.⁴⁷ Thus, Morén and Blom make no mention of the time period covered by their cycles.⁴⁸ Thursfield and Hamblett give a brief mention to the period covered by their research but are not very specific (it is approximately a decade).⁴⁹ Kowalczyk makes no mention of the period of her case study, although it is possible to deduce from the data she cites that it is approximately three years.⁵⁰ Third, and as the discussion above illustrates, none of the examples currently available of the application of the morphogenetic approach are bounded by a fixed period of empirical research. Consequently the start and end point (i.e. T1 to T4) can be moved to allow the inclusion of data that can then be used to construct a more comprehensive and consistent narrative of cycles of morphogenesis or morphostasis than is possible with a bounded study such as Council X.

I suggest that two conclusions can be drawn from these areas of divergence. First, in almost all cases, applying the morphogenetic approach to case studies over longer periods of time and/or to historical data allows many more 'problems' to be identified. This creates a similar situation to the one noted above, in that a bigger sample of 'problems' may well provide more scope to identify cases where the stages and multiple strata of morphogenetic cycles, and the relationship between them, can be more clearly defined, thus emphasising this dimension of the morphogenetic approach. Secondly, by not attaching specific dates/times to the T1–T4 labels, the actual and empirically messy nature of identifying and demarcating between the stages of emergence-interplay-outcome of three simultaneous morpho-

⁴⁷ Skinningsrud, 'Realist'.

⁴⁸ Morén and Blom, 'Explaining'.

⁴⁹ Thursfield and Hamblett, 'Human'.

⁵⁰ Kowalczyk, 'Tracing'.

genetic cycles can be downplayed or ignored. Furthermore, the temporal features of the 'problem' under investigation can also be blurred by not seeking to establish whether there was an identifiable start and end point (to the problem) and if and to what these were causally related.

There is little doubt that it is the features of the application of Archer's methodology set out above that are central to explaining my experience of dealing with the stages and cycles of morphogenesis. However, the most noticeable contrasts, and therefore the ones judged most significant, concern the level/strata or context (i.e. social structures, institutional systems, position-practice system) and scope (i.e. one, two or all three of the morphogenetic cycles) of the research to which the morphogenetic methodology is applied. Choice of strata and of scope has important implications for the degree to which a researcher needs to engage with the complexity of the *interaction* within and between strata and cycles. Interestingly, Skinningsrud's application of the morphogenetic approach to the Norwegian state education system and her comparison of this with Archer's studies of education systems illustrate these tensions and complexities well, and thus supports the argument set out here.

5.5. *Unintended outcomes and aggregate effects*

One of the underlying principles of Archer's work is that 'society is that which nobody wants, in the form in which they encounter it, for it is an unintended consequence'.⁵¹ However, Archer is quick to point out that to argue that society 'is an unintended consequence is not the same as to assert that all things social are a matter of contingency'.⁵² This is the most fundamental reason why maintaining a distinction between internal and necessary and contingent relations is crucial to the morphogenetic approach, for it allows 'the essential transcendental commitment to society not being wholly contingent' that sits at the core of critical realism.⁵³ Specifically, in Archer's work this is done by arguing that SEPs are a *sub-class* of unintended consequences and can therefore be differentiated from 'the totality of unintended consequences' because not all unintended consequences are 'irreducible, enduring, involved in internal and necessary relations with others and *because* of this possessing determinate causal powers'.⁵⁴

⁵¹ Archer, *RST*, 165.

⁵² *Ibid.*, 166.

⁵³ *Ibid.*, 167.

⁵⁴ *Ibid.*, 177.

It is worth emphasising again here, as above with contingent entities, that Archer fully accepts that contingent unintended consequences can have important causal effects. Nevertheless she argues that ‘they can always be disaggregated into the sum of individual actions, that is, they are reducible’.⁵⁵ As discussed above with regard to emergent properties, while in theory this kind of exercise is do-able, in an applied situation with empirical data that may well be less than perfect, it is not such an easy task. The suspicion has to be that, faced with the resource constraints that confront many scholars (and PhD students in particular), many will question whether the outcome, in terms of value added to the results of research, justifies the means. It is unsurprising, therefore, that there is bound to be a certain attraction in not distinguishing between aggregate unintended consequences. In fact, this is a point Archer accepts when she states that there is ‘a general difficulty in practical social analysis, namely the frequent tendency of those working exclusively at the level of events, to treat emergent properties as mere aggregate consequences’.⁵⁶

A number of further issues concerning unintended consequences also deserve mention before concluding this paper. The most fundamental picks up on the quotations from Archer at the head of this section, and returns us to the stratified nature of society and the level at which social analysis takes place. It can most easily be posed as a question: Does the claim that society is an unintended consequence of past actions and that social change does not approximate to what anyone wants hold at the level of a position-practice system (of an organisation)? In other words, and to be specific, were all situations that people encountered, whether as actors or corporate/primary agents within Council X the unintended consequences of past actions? And did the results of the actions of actors and agents never approximate to what any of them wanted?

On the evidence of the material presented elsewhere the answer would have to be no.⁵⁷ For example, the fragmentation of Council X and the systemic and cultural contradictions from which this resulted were, in large part, the unintended consequences emergent from the policies of decentralisation, devolution and privatisation. In other words, there was no evidence from any of the agents/actors involved in the formulation and implementation of these policies that they intended they should fragment the organisation – structurally, culturally and socially. However, this contrasts with numerous planned developments which it

⁵⁵ Ibid., 177.

⁵⁶ Ibid., 178.

⁵⁷ Horrocks, *EISD*.

was intended (by the actors and corporate agent(s) that sponsored them) should be implemented council-wide but where implementation was blocked by other corporate agents. Clearly the fact that these projects did not go ahead was an intended consequence of the actions of these agents/actors. In short, the outcome was not an approximation; it was exactly what was intended.

Other examples of unintended and intended consequences were regularly identified throughout the period of field research. Two conclusions can be drawn from this. First, at the level of experiences and events (the empirical and the actual) the position-practice system of Council X consisted of *both* intended and unintended consequences and/or outcomes. This runs counter to Archer's arguments. There is agreement here that some of these consequences will be contingent and some internal and necessary (i.e. emergent) and that all *may* be causally significant in certain contexts at certain times. However, as society is an open system and Council X is a part of that social system then what occurs there is unlikely to be an isolated case. Consequently I find it difficult to accept that at the level of higher strata there are no examples of intended outcomes, although it is accepted that the aggregating effect of ever larger populations of primary and corporate agents at the strata of institutional and social systems makes this less and less likely. Second, unintended consequences may be negative or positive in terms of causal processes. That is, they may unintentionally serve the interests of some agents while acting against the interests of others, as occurred on a number of occasions within Council X. Taken together with the argument for unintended consequences, this is, of course, what makes emergence such a powerful and dynamic concept.

6. Conclusion

Given the issues concerning mechanisms and relationships raised above it is unsurprising that my experience of the application of an exploratory methodology based on critical realism led me to concur fully with Ackroyd's comment that 'specifying the context appropriately, and establishing the character of causal mechanisms *are key problems of realist research*'.⁵⁸ One of the major reasons for this is clearly because neither contingency/emergence nor properties/mechanisms are directly observable.

⁵⁸ Stephen Ackroyd, 'Methodology for management and organisation studies', in *Critical Realist Applications in Organisation and Management Studies*, eds Steve Fleetwood and Stephen Ackroyd (London: Routledge, 2004), 137–63, emphasis added.

Of course, this is entirely consistent with the critical realist view of a stratified ontology. However, while critical realists would argue, as here, that by accepting this ontological standpoint a far fuller and deeper account of social phenomena can be constructed than by, for example, employing a positivist or post-modernist approach, there is a downside. Hence, the evidence of the research on which this paper is based strongly suggests that when Ackroyd concludes that ‘they [causal mechanisms] are usually only painstakingly reconstructed by iterative empirical research guided by theory’, in terms of working with the morphogenetic approach specifically, he is really telling only half the story.⁵⁹ To this has to be added the equally painstaking work of constructing causal processes from ‘chains of causal mechanisms’, as Ackroyd refers to them, and the difficulties of identifying and untangling emergent from contingent unintended consequences. Furthermore, also to be added is the most significant issue to arise from the comparison of the applications of the morphogenetic approach discussed above: the level/strata/context and scope of the research to which the morphogenetic methodology is applied.

The scope and complexity of the research necessary to capture the processes and generative mechanisms that were causally efficacious within the position-practice strata of Council X also seem to be the source of the difficulties and issues that emerged during the application of Archer’s methodology. There are, of course, measures which could have been adopted to try to counter this. Narrowing the scope and reducing the unit(s) of analysis are obvious ones. However, limiting the scope rather flies in the face of retrodution, because any causal processes subsequently identified would be artificially bounded. Consequently the analytical narrative produced would be incomplete and any conclusions drawn partial. Ultimately, therefore, it would seem that the underlying issue here is that as the granularity of the analysis of causal processes, mechanisms and powers increases so the complexity of the social systems that the morphogenetic approach is designed to explore becomes more and more apparent, making the construction of an ordered account of agency, structure and culture, and their interactions and outcomes, more and more difficult.

Nevertheless, despite the issues reported here it remains the case that based on the material from which this paper is drawn the complexity of the social structure of Council X no longer remained ‘hopelessly indefinite’ once the morphogenetic approach had been employed.⁶⁰ Instead a detailed and nuanced analytical narrative was produced of the history of

⁵⁹ *Ibid.*, 155.

⁶⁰ Horrocks, *EISD*.

'where, when, who and how', as Archer aptly puts it, of a range of examples of IS development and organisational change. The morphogenetic methodology also made transparent the complexity of the (inter-) relationship between the structure(s), culture(s) and agents of the position-practice system of Council X, and of the interaction and interrelationship of that system with the many others that constitute the environment of public administration and public services in Britain. Consequently, Archer's claim that one of the most important analytical strengths of the morphogenetic approach is that it allows something of practical (i.e. applied) value to be said as to the possibilities for change or reproduction in any social setting is fully borne out.

Bibliography

- Ackroyd, S. 'Methodology for management and organisation studies – some implications of critical realism'. In *Critical Realist Applications in Organisation and Management Studies*, edited by S. Fleetwood and S. Ackroyd, 137–63. London: Routledge, 2004.
- Archer, M. S. *Realist Social Theory: The Morphogenetic Approach*. Cambridge: Cambridge University Press, 1995.
- Archer, M. S. 'Realism and morphogenesis'. In *Critical Realism: Essential Readings*, edited by M. S. Archer, et al., 356–81. London: Routledge, 1998.
- Archer, M. S. 'Realism in the social sciences'. In *Critical Realism: Essential Readings*, edited by M.S. Archer, et al., 189–205. London: Routledge, 1998.
- Archer, M. S. 'Addressing the cultural system'. In *Critical Realism: Essential Readings*, edited by M. S. Archer, et al. 503–43. London: Routledge, 1998.
- Archer, M. S. 'Realism and the problem of agency'. *Journal of Critical Realism* (incorporating *Alethia*) 5(1) (2002): 11–20.
- Bellamy, C., I. Horrocks and J. Webb. 'Exchanging information with the public: from one stop shops to community information systems'. *Local Government Studies* 21(1) (1995): 11–30.
- Carter, B. and C. New, eds. *Making Realism Work: Realist Social Theory and Empirical Research*. London: Routledge, 2004.
- Contu, A. and H. Willmott. 'You spin me round: the realist turn in organization and management studies'. *Journal of Management Studies* 42(8) (2005): 1645–662. doi:10.1111/j.1467-6486.2005.00560.x
- Fleetwood, S. and S. Ackroyd, eds. *Critical Realist Applications in Organisation and Management Studies*. London: Routledge, 2004.
- Hoff, J. 'Technology and social change: the path between technological determinism, social constructivism and new institutionalism'. In *Democratic Governance and New Technology*, edited by J. Hoff, I. Horrocks and P. Tops, 13–32. London: Routledge, 2000.
- Hoff, J., I. Horrocks and P. Tops, eds. *Democratic Governance and New Technology*. London: Routledge, 2000.
- Horrocks, I. *Exploring Information Systems Development in English Local Government: A Morphogenetic Approach*. Milton Keynes: Open University, 2006.
- Horrocks, I. and N. Hambley. 'The webbing of British local government'. *Public Money and Management* 18(2) (1998): 39–45. doi:10.1111/1467-9302.00114

- Kowalczyk, R. 'Tracing the effects of a hospital merger'. In *Critical Realist Applications in Organisation and Management Studies*, edited by S. Fleetwood and S. Ackroyd, 298–320. London: Routledge, 2004.
- Leach, S., J. Stewart and K. Walsh, *The Changing Organisation and Management of Local Government*. Basingstoke: Macmillan, 1994.
- Margetts, H. 'Computerising the tools of government'. In *Public Administration in an Information Age*, edited by I. Snellen and W. van de Donk, 441–57. Amsterdam: IOS Press, 1998.
- Morén, S. and B. Blom, 'Explaining human change: on generative mechanisms in social work practice'. *Journal of Critical Realism* 2(1) (2003): 37–60.
- Morton, P. 'Using critical realism to explain strategic information systems planning'. *Journal of Information Technology Theory and Application* 8(1) (2006): 1–20.
- Mutch, A. 'Critical realism, managers and information'. *British Journal of Management* 10 (1999): 323–33. doi:10.1111/1467-8551.00142
- Mutch, A. 'Information: a critical realist approach'. In *Exploring the Context of Information Behaviour*, edited by T. D. Wilson and D. K. Allen, 46–55. London: Taylor-Graham, 1999.
- Mutch, A. 'Actors and networks or agents and structures: towards a realist definition of information systems'. *Organisation* 9(3) (2002): 477–96.
- New, C. 'Realising the potential: the ESRC seminar series on social realism and empirical research'. *Journal of Critical Realism* (incorporating *Alethia*) 4(1) (2001): 43–7.
- Orlikowski, W. J. 'The duality of technology: rethinking the concept of technology in organisations'. *Organization Science* 3(3) (1992): 398–427. doi:10.1287/orsc.3.3.398
- Orlikowski, W. J. and D. Robey. 'Information technology and the structuring of organisations'. *Information Systems Research* 2(2) (1991): 143–69. doi:10.1287/isre.2.2.143
- Pawson, R. and N. Tilley. *Realistic Evaluation*. London: Sage, 1997.
- Skinningrud, T. 'Realist social theorising and the emergence of state educational systems'. *Journal of Critical Realism* 4(2) (2005): 339–65. doi:10.1163/157251305774356621
- Snellen, I. and W. van de Donk, eds. *Public Administration in an Information Age*. Amsterdam: IOS Press, 1998.
- Thursfield, D. and J. Hamblett. 'Human resource management and realism: a morphogenetic approach'. In *Critical Realist Applications in Organisation and Management Studies*, edited by S. Fleetwood and S. Ackroyd, 113–30. London: Routledge, 2004.
- Wilson, D. and C. Game. *Local Government in the United Kingdom*, 2nd edn. London: Macmillan, 1998.
- Young, K. and N. Rao. *Local Government since 1945*. Oxford: Blackwell, 1997.