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Making a mess of academic work: experience, purpose, identity

Janice Malcolm, University of Kent

Miriam Zukas, University of Leeds

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Abstract

Within the policy discourse of academic work – the 'official' story – teaching, research and administration are seen as discrete elements of practice. We explore the assumptions evident in the official story and contrast this story with the messy experience of academic work, drawing upon empirical studies and conceptualisations from our own research and from recent literature. We propose that purposive disciplinary practice across time and space is inextricably entangled with and fundamental to academic experience and identity; the fabrications of managerialism, such as the workload allocation form, fragment this experience and attempt to reclassify purposes and conceptualisations of academic work. Using actor-network theory as an analytical tool, we explore the gap between official and unofficial stories, attempting to reframe the relationship between discipline and its various manifestations in academic practice, and suggesting a research agenda for investigating academic work.

Janice Malcolm
University of Kent
Canterbury
Kent CT2 7NQ
UK
(+44) 01227 824579
j.malcolm@kent.ac.uk

Miriam Zukas
University of Leeds
Leeds LS2 9JT
UK
(+44) 0113 343 3242
m.zukas@leeds.ac.uk

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Janice Malcolm, University of Kent

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Official stories of academic work

Various 'official' versions of the nature of academic work are evident in institutional and policy discourses and practices. In Britain, work is conventionally divided at an institutional level into three main elements: research, teaching and administration, although this has now been superseded in many universities by alternative, more detailed categorisations. For example, administration may be further elaborated by the incorporation of 'enterprise' or 'income generation'; teaching may be both broadened and more closely specified by the inclusion of quality assurance activities within its definition; research may be defined as encompassing 'knowledge transfer', or the securing of major research funding. Many of these activities are focused on the development of the university as a 'successful' institution, rather than on scholarly aims *per se*. Academic staff often find that the proportion of their working time devoted to particular activities is carefully specified; in some cases, the hours and the spaces devoted to teaching, research and administration are actually laid down in employment contracts.

These specific categorisations of academic work are often formulated by institutions in response to the categories employed in educational policy discourse and in the apparatus of quality assurance in higher education (HE). We have previously explored the implicit and unarticulated, but often contradictory, conceptions of 'good pedagogic practice' embedded in the regulatory frameworks of government and professional bodies, and the impact of these on teachers' engagement, practice and identity (e.g. Malcolm and Zukas 2002). However our focus then was principally on the regulation of teaching, rather than on issues of discipline and research, and how, if at all, they interact with the category of 'pedagogy'. The language of policy exerts a powerful influence on the ways in which we construct our own narratives of academic work, and indeed our practices as 'teachers' and 'researchers'; as Nespor points out, 'educational practices ... are not simply conditioned by relations of

power, they are constitutive of them' (1994, 20). Research assessment and the structures within which it occurs (in Britain at least) are kept completely separate from parallel teaching quality frameworks; yet, we would contend, pedagogy cannot be discussed without considering the nature of research and the power of discipline in the development of pedagogic discourse and practice (see Zukas and Malcolm 2007, for a more detailed discussion of this question). Implicit in many recent discussions of the 'research-teaching nexus' is the assumption that research and teaching are self-evidently and fundamentally separate and distinctive activities between which a relationship of some kind may or may not exist. Such discussions tend to draw heavily on the metaphor of learning as acquisition (Sfard 1998), working from the mechanistic assumption that research is about getting, discovering or even creating knowledge, whilst teaching is about transmitting it.

At an institutional level, too, academic practices may be the subject of clear attempts at differentiation and separation. For example, British universities are required to show annually through a 'transparency' exercise (the 'Transparent Approach to Costing') the income and costs for teaching (publicly- and non-publicly funded), research (publicly and non-publicly funded), and 'other' (such as knowledge transfer) (HEFCE, 2007). In addition to complying with complex accounting processes in which all expenditure is classified as falling into the category of teaching, research or 'other', academics may also have to engage personally in a 'verification' exercise in which they keep time sheets for several weeks a year, logging each half hour of each day under one of these headings. This powerful policy and institutional discourse has the potential quickly to reify academic work divisions both through management practices and through academics' own narratives of their practice.

A more everyday and thus perhaps more insidious example is that of workload allocation models (see e.g. <http://www.research.salford.ac.uk/maw/>). In the UK, as in many other countries, universities are currently preoccupied with 'modernising' management practices, and this modernisation often requires a workload allocation model to be agreed as a means of managing performance and distributing work

tasks, responsibilities and rewards. These models reproduce and reinforce the divisions between research, teaching and administration by allocating 'notional hours' to each of these activities. For example, in one of our departments, academics work a notional 1650 hours a year, with approximately a third of their time allocated to each of the three activities; when official holiday periods are discounted, this works out at 37.5 hours a week. Even allowing for relatively generous university holidays, it is clear that universities would collapse if academics took seriously the 'notional' hour allocation. However, as many managers and academics have discovered, the 'notional' hour provides a veneer of objectivity and justification for the continuation of a highly uneven distribution of work. Some will interpret the hour literally ('I can't review that paper because I've used up all my research hours'), whilst others will continue to overwork two- and three-fold with managers' collusion that these are just 'notional' hours.

There are of course elements of academic work which can be seen as 'billable' (a term used by lawyers and other professionals to charge for their time): classroom teaching and consultancy are examples. We therefore find that workload models increasingly differentiate between 'real' hours – e.g. contact time with students – and 'notional' hours such as time for research, preparation or administration. Because 'real' hours are more clearly 'billable' (in a devolved financial model, departments may be rewarded for the number of hours and number of students taught), the amount of time each 'real' hour really represents is often a bone of contention. The meanings attached to 'real' hours will depend upon particular disciplinary practices and negotiations: so, for example a 'real' hour in English may be translated into a higher number of 'notional' hours than in Chemistry. Within Psychology, an hour in a laboratory is often treated as comparatively less time than an hour in a lecture; marking a lab report is viewed as less time-consuming than marking an essay (although the converse may be true in other subjects).

How then do these 'official' regulatory versions of academic work, in which teaching, research and administration are discrete and measurable activities,

compare with the story that emerges if we look instead at the messy realities of work and the workplace as academics experience them?

Theoretical and empirical resources

Actor-network theory (ANT) provides a useful theoretical resource for exploring the messy realities of work and the workplace. As we have explained elsewhere (Zukas and Malcolm, 2007), there are many versions of ANT or, as Latour suggests, good accounts 'where all the actors *do something* [sic] and don't just sit there' (2005, 128), but its fundamental premise, relational materiality, is generally shared. This means that 'materials do not exist in and of themselves but are endlessly generated and at least potentially reshaped' (Law, 2004, 161). Thus actors might include humans, technologies, machines, laboratory instruments, texts, policies and so on. Actor-networks are not fixed entities which are constituted by actors; instead they are 'fluid and contested definitions of identities and alliances that are simultaneously frameworks of power' (Nespor, 1994, 9).

ANT was taken up within organization studies in order to move 'away from a formal-functional emphasis on organization as an entity towards the study of processes and practices of organizing, and importantly socio-technical organizing' (McLean and Hassard 2004, 495). Bowker and Star's (1999) study shows how classifying (a form of spatialising and temporalising) is strongly related to identity making and the making of an entity, for example. Such insights highlight the need for a space-time analysis of academic work, as well as the significance of space-time in relation to disciplinary actor-networks.

Accounts of ANT have also been developed within education (e.g. Clarke, 2002; Edwards and Nicoll, 2004; Hamilton 2001; Mulcahy, 2006; Nespor, 2007). For our purposes, the most comprehensive is Nespor's (1994) ethnography of the ways in which undergraduates become physics students and management students. His careful study shows how the actor-networks of undergraduate education, which are in turn connected to other actor-networks of discipline, construct space-time relations. Through the *material* (buildings, classrooms) and *representational* (text-

books, notes, lectures) productions of space-time, students are enrolled into disciplines and disciplinary practices. For Nespor, these students 'move through space materially, and simultaneously move and construct space-time through practices of representation' so that 'what we call "learning" are (*sic*) segments of motion which follow the shapes of more stable institutional or disciplinary networks" (131). From this perspective then, the discipline itself exists as a stable entity 'constituted by cycles of accumulation within networks that organise flows of people through space and time' (10-11). Teaching is one of the many ways in which the spatialised and temporalised activities of teachers and students connect them to disciplinary practices; research practice is another. Thus, Nespor's study enables us theoretically to link teaching and research through the spatialised and temporalised practices of discipline and to suggest that any attempt to organise academic work without prioritising disciplinary networks is unlikely to succeed.

As Latour (1998b) suggests, ANT works as a 'theory of a space in which the social has become a certain type of circulation' and this can offer some illumination as we explore academic work and its translations. In addition to drawing upon ANT as a theoretical resource, we now illustrate the messy realities of academic work with examples from Nespor's study (1994) and from our own empirical work. This has involved semi-structured interviews over eight years with twenty academics, based in the UK and Australia, which in turn emerged from a bibliographic study of teaching in HE.ⁱⁱ

Academic work in practice: discipline, time and space

In this section we take discipline, time and space as our starting points for an analysis of academic experience and identity. Our interviews with academics suggested that **discipline** is highly significant for many academics in everyday life: discipline, research, pedagogy and academic identity appear to be inextricably entangled (Malcolm and Zukas 2007). Although disciplinary boundaries and identities are constantly shifting, contested and dissolving, discipline – as distinct from institution or activity – is a crucial organising principle for academic work. Academic workplaces are usually constructed physically, organisationally, culturally,

managerially and in many other ways by discipline; many of us work in disciplinary departments with their own cultures and practices; we are managed (at least immediately) by members of the same broad discipline; we spend much of our time each day with our 'disciplinary' hats on, regardless of the activities with which we are engaged. There are – of course – notable exceptions such as departments of adult education and gender studies, although the recent fate of many of those departments in the UK and beyond would suggest that such multi-disciplinary arrangements are always in tension with the apparent orderliness of discipline, however defined (Zukas and Malcolm 2007). Clearly, the strength of individual disciplines in shaping pedagogy, research activity and academic identity varies enormously (Bernstein, 2000).

Trowler (2008), speaking in particular about the role of discipline in analyses of teaching and learning 'regimes', warns against 'epistemological essentialism', and argues for a more multifaceted analysis of contextual factors. The essentialism he refers to relies upon a conception of discipline as a closed structure, and he offers an alternative analysis which recognises the agency of other contextual factors in disciplinary practices (though *purpose* is missing from the factors he suggests). It is important to stress here that we are not utilising an essentialist reliance on disciplinary *epistemology*, but exploring the work of discipline as an *actor-network* (Latour, 1998a). Respondents in our studies of academic identity construction repeatedly refer to the fact that they experience their work primarily as disciplinary endeavour, rather than as 'research' or 'teaching'; they speak, for example, of writing philosophy when preparing materials for students, or teaching 'sociologically', or using linguistics as a language to enable students to talk about language. Their responses are redolent of Rowland's 'intellectual love' (2008) or of Nixon's 'virtuous dispositions' (2004): they conceive of disciplinary work as morally and socially purposive activity. Teaching is often expressed as a disciplinary activity through which both the students and the teachers are enabled to produce disciplinary knowledge – mobilising and reconstructing ideas in much the same way as might conventionally be expected in research practice. One of our respondents, Natalie, commented:

'The discipline area actually affects a lot how you teach... it almost becomes an intuitive sense of how to connect to people in relation to oneself and in relation to them and in relation to what is being taught or learnt ... But that actually comes through experience, right?'

She also expresses a fundamental problem in applying the institutional labels of teaching and research to her academic work:

'There's always institutional constructions of who I am and what I am and what I do. And they're very powerful, right? Whether or not I always take them up or not ... varies but ... the institutional position's as a researcher, right? And that's because half of my job – or more than half, in workload terms, is as a researcher. And even my PhD work isn't considered to be proper teaching ... So I'm located as a researcher. And when people outside the institution say 'What do you do?' I say I'm a teacher. Because it's ... especially in educational research, it's so hard to explain and talk about and people understand research to be a certain thing, and I'm not any of those things. So I just settle with the teacher business. And ... they've immediately got some image of lecturing or lecturer or something like that ... but that's not [how] I primarily see myself now which is ... contextually ... as a researcher... And when I'm with students, they only see me as a teacher. So it's that constant flipping flopping between those ...'

Natalie's account exemplifies the confusion and fragmentation which arises from attempts to divide the 'mess' of academic work into essentially artificial categories. Natalie finds it impossible to extricate her identity as a researcher from her identity as a teacher. It is precisely this inextricability of research and teaching in the lived experience of academics that suggests that some 'official' accounts of academic work are not nuanced accounts of the intricacies of everyday life: instead they are translations (Callon 1986) – attempts to impose themselves and their definition of academic work on others – an issue which we explore later in this paper.

The force of discipline in academic work and identity also has a **temporal** dimension: as specialisms diverge and strengthen, or converge and weaken, the space which can be appropriated by a discipline will change over its history, as will those who do the work of the discipline. This temporal element of academic experience can be a unifying and positive factor when viewed through a disciplinary lens. In a particularly acute example of this, one of our respondents, a Philosophy professor, describes his academic work as a disciplinary 'apostolic succession', engaging with the minds of others over historical time:

'But I think ..., I mean in very grandiose terms I think of myself as part of a historical tradition I suppose, I think of myself as doing something that people have been doing for two thousand five hundred years – a part of that.' (Ron)

More prosaically, academics may experience a 'spiral curriculum' whereby basic disciplinary concepts are revisited through teaching over a number of years, and their own understandings of those concepts are transformed in the process. One of Nespor's respondents, a Physics professor, says:

'... in my own experience as a student I recall I didn't really feel comfortable with classical mechanics even after receiving my PhD and I was horrified to learn that my first teaching assignment was classical mechanics at the introductory and intermediate levels. It wasn't until I had several years of teaching at those levels that I found myself comfortable with mechanics.'
(1994, 53)

Yet temporal factors can also fragment the experience of academic work. The time-frames employed in the categorisations of official stories of academic work conflict with the lived experience of disciplinary work; academics find their experience is strongly at variance with the story told by the workload allocation form. The temporal divisions between teaching and research which it attempts to enforce may

thus collapse in the face of academics' own temporal experience, disciplinary understandings and conceptions of purpose in their academic work.

If we turn now to the **spatial** aspect of space-time in relation to the academic workplace, we confront again the failure of the 'official' story to translate academic work. The workload form suggests that academics 'go to work' for a certain time each week; they may spend their time divided between the classroom, the library or laboratory, and the office, but nevertheless work is bounded by space and time.

Academics offer a very different account of 'going to work' and 'working' in which departments and offices and homes are connected to other departments and offices and homes around the globe by 'flows of representations through the disciplinary web' (Nespor 1994, 133). This is not just a consequence of technological developments and global communications; instead, actor networks (academics, texts, computers, mobile phones) organise and produce the workplace. Thus, as you read this paper, perhaps in bed, or on a plane between countries, at some time in the future, you interact with us in the past, at a laptop on the kitchen table in a house which neither of us lives in, and in a city where neither of us works. The workplace does not produce work; rather, purposive academic work itself creates the workplace in a way which evades the spatial and temporal discipline of the academic institution and of the educational policy structures which drive it.

The workload allocation form can thus be seen as a 'fabrication' in the sense in which Ball (2003) uses the term:

'versions of an organization (or person) which does not exist - they are not 'outside the truth' but neither do they render simply true or direct accounts - they are produced purposefully in order 'to be accountable'. Truthfulness is not the point - the point is their effectiveness ... in the 'work' they do 'on' and 'in' the organization - their transformational and disciplinary impact ... Fabrications conceal as much as they reveal.' (224-225).

Making a mess of academic work

So how then might we theorise this 'fabrication' of academic work? Callon's classic ANT study (1986) provides a useful analytical framework to explain why there is a gap between official and unofficial stories of academic work. Callon's research focused on a controversy about the reasons for the decline in the population of scallops in a bay in France, and the attempts by marine biologists to develop a conservation strategy for the scallops. The analysis, in accordance with one of the main tenets of ANT, suspended all judgements about the 'social' and the 'natural' and instead began with a commitment to trace and explain the conflicting viewpoints of the actors (in this case, scallops, fishermen, biologists, etc.). In order to do this, Callon suggested that these actors have some relation with one another, such that they make one another *do something*. This process of translation – 'the mechanism by which the social and natural worlds progressively take form' (Callon 1986, 19) – can be traced through a series of four *moments* in which actors in the social and natural worlds are defined and mobilised:

- Problematization
- Interessement
- Enrolment
- Mobilisation

We now utilise this approach in relation to the actor-networks of discipline and the management of academic work, by analysing the workload allocation form as a specific example of the way in which academic work is produced and organised in time and space. This analysis may assist us in understanding the persistent estrangement of 'official' and academics' stories.

There are thus four moments of translation in the actor network of the management of academic work (the 'official' story). First is the ***problematization*** – the way in which academic work is defined as a problem which needs managing. Professional autonomy has been under fairly systematic attack since the 1980s (see e.g. Bottery 1996); academic work, like that of other professionals, has gradually

been recast as service, with academics becoming entailed in the production of goods and services (graduates, intellectual products, transferable processes, etc.). Politicians, policy makers and funding organisations have long argued that publicly-funded HE, in line with the general discourse of efficiency and effectiveness, needs to be accountable and offer value for money.

A succession of new methods of measuring value for money (more and more carefully-refined formulae, comparisons between universities' performance on every aspect of expenditure - including income per square metre) has been invented. At the same time, the HE system has had to become more 'efficient', and increasingly to compete for funds, particularly in relation to research. As academics' complaints about increased demands for productivity have become louder, so the actor-network of the management of academic work has become established. This new actor-network offered an alternative problematisation of the imbalance of increased work and decreased resources; it proposed that this imbalance would be resolved if the actors were more efficient – in Callon's (1986) terms, it created an 'obligatory passage point' of more efficient production of service through which all the actors had to pass. Such an obligatory passage point defines the problem solely as the management of academic work for efficient service delivery rather than focusing on, for example, reduced resources, globalised competition, or the changing expectations of students as 'customers'. Universities would thus have to find ways of measuring academic productivity by asking academics to account for what they were doing and when.

New strategies needed to be developed at both policy and institutional levels in order to stabilise the identity of the actors defined through problematisation. This is the stage that Callon calls the moment of *interessement*. Such strategies included the development of different funding streams for research and teaching/learning, the invention of different processes for the quality assurance of research and teaching/learning, the demand that universities produce managerial strategies on matters as diverse as learning, teaching, assessment and human resources. Since *interessement* itself is not a stable process, further strategies were required as

earlier strategies were judged to be failing – for example the ‘transparency review’ mentioned earlier was invented to ensure that money intended to be used for one service (teaching) was not ‘subsidising’ another service (research).

Whilst *interessement* concerns the development of strategies to stabilise identities, ***enrolment*** entails the processes by which actors are locked into the roles proposed for them. Such processes might include macro-processes such as job evaluation schemes (e.g. the HE role analysis programme which UK funding bodies have recently imposed on universities) and the detailed specification of work contracts. Once work is specified, performance management and appraisal systems, together with systems of workload distribution, are used to enrol actors into service. Actors are further enrolled through continuing professional development and promotion procedures, prizes (fellowships, research awards incorporating elements of ‘paid’ time) and other mid-level processes. At the micro-level, systems of workload distribution lock actors into thinking about their own academic work as service work.

The final step in the process, ***mobilisation***, occurs when various actors are transformed into manageable entities that can be transported across space-time – for example, through the decision about who actually teaches a module or leads a seminar group. This is assisted by the workload allocation form, which is also an actor – it excludes and restricts, recruits and reconstructs actors. It has an important pedagogic function in this respect, defining for academics what is work and what is not. As we have argued elsewhere in this paper, the categorisations employed in these forms do not simply record what is happening; instead, like all classification systems, they are powerful technologies which mediate subsequent action (Bowker and Star 1999). In Latour’s terms (1987), they are immutable mobiles, expected to travel unchanged across space and time and to be comparable (one person with another, one university with another) as well as combinable. Thus, although the management of academic work may manifest itself through different institutional or national systems, it is likely that academics around the world will recognise the practices and instruments we describe here.

Accounting for mess

So an actor-network of the management of academic work is established; but to what extent is it successful and stabilised? Academics may comply with its demands, even colluding in the production of 'better' fabrications to strengthen it, yet will also admit that it is experienced as a fabrication. There is a clear dislocation between the official and academic versions of academic work; complex and strenuous attempts to reconstitute academic work to institutional requirements, and the enrolment and mobilisation of academics in the management of their own work, have been only partially successful. We offer here three ways of accounting for this, although these are not intended as a complete explanation and are, indeed, contradictory.

The first possible explanation is that 'managerialist' practices which attempt to objectify, categorise, regulate and record academic activity are essentially futile in the face of 'messy' disciplinary purpose and practice:

'Managerialism ... finds mess intractable. Indeed unknowable. Perhaps more radically, managerialism makes mess, not in the nasty and motivated way that is the most obvious way of interpreting such a suggestion (though no doubt this happens), but simply because it, in its nature, demands clarity and distinction. That which is not clear and distinct, well-ordered, is othered. It is constituted as mess, like the plants that are turned into weeds by virtue of the invention of gardening. Perhaps, then, mess is like invisible work except that it isn't invisible. Instead it simply doesn't fit: it flows around and exceeds the limits set by immutable mobiles.' (Law and Singleton 2003, 341)

In this account numerous strands of academic work itself - most crucially the discipline as purposive activity and academic workspace - are othered and constituted as mess. Those aspects of work which can be construed as billable service are cultivated, constrained and organised, but (as in the case of the popular TV 'garden makeover') the tidiness of the resulting picture is illusory and impossible

to maintain in the face of everyday experience. The inauthenticity demanded by managerialist fabrications may be patently clear and, indeed, experienced as a violation of the 'academic self' (Ruth 2008, 104). To this extent, the actor-network of managing academic work is not only unsuccessful but actively endangers the productivity which it seeks to promote. Despite this, it is important to acknowledge that some plants in the illusory tidy garden may well take root – demonstrated, for example, by the fact that academics themselves will play along with the workload allocation process, even becoming embroiled in competitions and arguments about the appropriate tariff for their individual activities and responsibilities. In effect, they do begin to accept and embody the fabrications and behave accordingly. As Ball points out, 'the reform technologies play their part in 'making us up' differently from before by providing new modes of description for what we do' (2003,218). To this extent, actors are successfully enrolled in the actor-network of the management of academic work.

For academics themselves, however, work still proceeds from and constructs the discipline, and occurs within it, wherever they may be situated in time and space. So a second possible account resides in the power of *discipline* as an actor-network and as a workplace, which we have discussed in this paper. But the attempt to overlay one actor-network (efficiency) upon another (discipline) – or perhaps to impose the obligatory passage point of one upon the other in order to break down the strands which hold it together - produces another kind of mess, perhaps distinguishing academic work from many other kinds of employment. This results in entanglements and confusion rather than in the careful and incremental replaiting and knot-making (Latour 1998a) through which new actor-networks are constructed.

A third account might be simply that 'official' stories of academic work do not work because universities themselves do not believe in them. They are, to revive a venerable term, riddled with internal contradictions. So, for example, the workload allocation form demands a notional number of hours from academics which, if the workforce complied, would result in the disintegration of much of the university's

core economic activity. The performative 'storying' of the university, and of academic work, through mission and values statements, audit documents and quality assurance processes is regarded with cynicism even as it is fabricated (usually outside the hours accounted for in the workload allocation form). As fast as universities invent new categories of work and forms of contract (for example, teaching-only) they have to abandon them in the face of the contradictions of everyday practice.

Reassembling academic work

As we have shown, the policy discourse of academic work – the 'official' story – assumes that teaching, research and administration are discrete elements of practice. We have considered the assumptions evident in the official story and examined the messy experience of academic work. We have proposed that purposive disciplinary practice across time and space is inextricably entangled with, and fundamental to, academic experience and identity. Managerialist fabrications such as the workload allocation form fragment this experience and attempt to reclassify purposes and conceptualisations of academic work. A more integrated practice of and accounting for academic work requires a more detailed analysis of the ways in which the actor-networks described here behave and interact – an analysis which is not yet available.

We are therefore left with a set of research tasks rather than a set of conclusions. Perhaps the most important is to listen to Latour's injunction to 'Follow the actors themselves' (1996, 238). In other words, if we wish to understand academic work better, we need to move beyond thinking of the university as the workplace, the academic as the principal actor, and teaching and research as discrete activities. We have seen that academic work itself produces the workplace in disciplinary and unmanageable space and time, and that this conflicts with institutional constructions of the nature and location of work. For the researcher, this view of the workplace undoubtedly presents methodological and practical problems. So, for example, ethnographic study of academic work is difficult if we try to move beyond the idea of observing academics 'at work'. However, if we understand the actors in

academic work to include forms, papers, academics, students, books, conference rituals, 'calls for papers', offices, lecture theatres and so on, we open up a rich field of ethnographic and other forms of social inquiry.

We also need to find new ways of thinking about discipline. Conceiving of disciplines as actor-networks, rather than as 'bounded' entities or as incommensurable epistemologies (to name only two approaches), suggests a rich and immensely complex set of actors for us to follow. It give us lenses through which to examine and understand interdisciplinary practices, particularly in relation to the growth, transformation and withering of disciplines over time and space. Analysing the interaction of academic work with other practices, for example through 'knowledge transfer' activities and community service, may be easier if we are not hampered by boundary constructions but focus instead on the actors themselves.

We would also argue for the development of 'mindful disciplinarity' as part of the academic apprenticeship (Malcolm 2008). Rigorous and critical disciplinary research on academic practice needs to be nurtured within disciplines themselves. Just as, for example, the history of sociology or the ethics of medicine are explored by disciplinary practitioners – and indeed develop into specialisms in their own right – so the purposes and practices of teaching and research within disciplines need to become a focus of disciplinary research and the education of practitioners, for example through the PhDⁱⁱⁱ. Disciplinary actor-networks rely on the enrolment of new practitioners and on the continuing appropriation and development of their intellectual, social and physical space – including the nurturing of those interdisciplinary relationships which lead to new disciplinary actor-networks. Mindful disciplinarity, or a critical awareness of the discipline as a site of intellectual and social practice, renders purpose and practice within the discipline an explicit and essential concern of its practitioners.

ⁱ We are extremely grateful to our two anonymous reviewers for their constructive and helpful comments.

ⁱⁱ ESRC project (R000222794)

ⁱⁱⁱ See for example the work of Lynn McAlpine (University of Oxford) and colleagues in the 'Preparing for Academic Practice' project (<http://www.learning.ox.ac.uk/cetl.php?page=196>).

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