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SAGE BENCHMARKS IN SOCIAL RESEARCH METHODS

ACTOR-NETWORK THEORY RESEARCH

VOLUME I
Emergence, Development and Transformation – Part One

Edited by
Richie Nimmo
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Editor’s Introduction: From Generalised Symmetry to Ontological Politics and After – Tracing Actor–Network Theory

Richie Nimmo

Introduction: From Representation to Translation

Despite its name, it is important to acknowledge that actor–network theory (ANT) cannot be properly understood as a ‘theory’. This would be to mistake its core ideas for something resembling general propositions about the world, about empirically observable phenomena, or the structures and relations underlying those phenomena; but ‘ANT’ is not a theory in that sense. Its proclivity for what can sometimes be a fairly abstract ‘theoretical’ terminology notwithstanding, key proponents of ANT have often tended to avoid disembedded theoretical arguments, preferring to articulate and develop the approach through grounded analyses of particular cases. To grasp ANT as a methodology would be less misleading, except that methodologies are usually attached to specific methods or sets of methods as practical approaches to collecting or generating data, so that there is a fairly well-defined transition from the abstractions of methodology to the concretes of method; this is only very weakly the case with ANT, which does have a certain affinity with ethnography but is by no means inimical to a range of other methods, including quantitative and statistical methods (Latour, 2010; Latour et al., 2012; Ruppert et al., 2013). ANT then does not conform very well to the common typology that underpins the categories ‘theory’ and ‘method’, and is better understood as an ontological–methodological formation or onto-methodology.

Another challenging characteristic of ANT is its thoroughgoing interdisciplinarity.Originating in social studies of science and technology or STS – itself an interdisciplinary field encompassing history, sociology, philosophy and anthropology – no sooner had it emerged than ANT began to proliferate and reverberate ever more deeply into those constituent disciplines and others across the social sciences and humanities. While retaining an enduring
closeness to STS concerns, ANT has been further developed and rearticulated within sociology, anthropology, philosophy, organisation studies, architecture and design, gender studies and human geography, as well as other interdisciplinary fields including environmental studies, animal studies and medical humanities. All significant ideas travel of course, but ANT has been a particularly prolific intellectual traveller, and has been transformed to some extent by every journey. Its mobilisation within new disciplines and fields has involved encounters with new problematics, new concepts, paradigms and preoccupations, and just as ANT has been drawn upon in new ways in order to reimagine these problematics and realign or challenge some of their framing assumptions, so in turn it has been modified and reshaped in the process. It follows that ‘ANT’ is far from being the unitary thing such nomenclature inevitably implies; on the contrary, ANT is a constantly fragmenting and multiple entity, a heterogeneous formation rather than something solid or definite.

Fragmentation and multiplicity imply change, and ANT has manifested a striking propensity for reinvention, development and adaptation. No doubt this is partly driven by exogenous influences brought to bear by its circulation within multiple disciplines, but it has also to do with a dynamic endogenous to ANT, namely its tendency towards a relentless reflexivity. ANT emerged in significant part from a reflexive turn in social studies of scientific knowledge, which involved a new determination to subject the social sciences and their knowledge-practices to the same epistemological treatment as was being meted out to the natural sciences – an inaugural act of reflexive self-critique. This impulse has very much continued as part of the modus operandi of ANT, whose key proponents have constantly sought to subject ANT to the implications of its own immanent developments as well as to external critiques and encounters. One result has been a regularly shifting and expanding terminology, which can sometimes strike those new to ANT as a bewilderingly abstract lexicon obscuring the key ideas behind the theory. But the cumulative changes in terminology reflect shifts in emphasis and orientation, such that it is possible identify distinct phases or periods of ANT based upon its changing vocabulary over time. It would therefore be a mistake to think of ANT as in any sense static.

Fragmentation, multiplicity, heterogeneity, interdisciplinarity; these characteristics present a significant challenge to any attempt to represent ANT in an edited collection, and taken together they are more than merely challenging – they question the very viability of the task. Over and above the clear risk of misrepresentation, if ANT is indeed a fragmenting, multiple, heterogeneous, and changing interdisciplinary assemblage, which can only problematically be disentangled from the detailed case studies through which it has often been organically developed, then does the attempt to ‘represent’ ANT not mark a kind of disciplinary project, an attempt to contain it, to pin it down, and to ascribe a fixed, solid and unitary identity? Would the result of such an operation still be true to ANT, or would it be an abstracted caricature betraying the spirit
of the approach? The most appropriate way to respond to this dilemma seems to be with insights furnished by ANT itself.

ANT shares with poststructuralism a critique of the metaphysics of representation, and can be understood as broadly aligned with the movement towards 'non-representational' modes of theory (Thrift, 2008). For ANT, representation is always translation or traduction, which inevitably involves trahison, or betrayal, to some degree (Law, 1997). It is naïve to suppose that a theory – a mere arrangement of language, metaphors and concepts – could truly ‘represent’ the heterogeneous intricacy of the world, of lived practices, material orders and networks of relations in all their kaleidoscopic complexity; more plausibly, theory translates limited elements of situations and some of the relations comprising them into inscriptions which can be circulated and mobilised in different spaces, retaining key elements of the prior relational form but also becoming something substantively different in the process. Theories are not so much ‘representations’ then as particular mobilisations of circulating elements, which always involve a dissolution, a rearrangement and reassembly. It is the same when a single written account or collection tries to ‘represent’ a tradition of thought comprising a whole complex assemblage of inscriptions by multiple authors over a period of time. John Law (1997: 1) sums up this problem very nicely:

'What would it be to “speak for” a theory or a tradition in STS? What would it be to “represent” that theory? […] Sometimes I find that I’m faced with this question. I am asked to speak for actor network theory. […] When this happens I feel uncomfortable. For the request poses a problem. The problem of what it is to be a “faithful representative”. And in particular with what it might mean to “represent” a theory that talks of representation in terms of translation. Which seeks to undermine the very idea that there might be such a thing as fidelity. Faithful translation. Which stresses that all representation also betrays its object'.

Rethinking the notion of representation along these lines, the relationship between the translation and the ‘original’ is less akin to a photograph understood as a faithful representation than to a portrait or sketch, which is certainly a response to its subject, but an irreducibly specific one located and embedded in a particular relational encounter. The task of representing ANT is therefore less about accuracy or faithfulness to some well defined, unitary and relatively static original, which almost certainly does not exist, and more about creating a good working sketch, a well-observed portrait which brings out some of the most striking features, whilst acknowledging that this is ultimately no more than a working impression of a subject that will not stop moving. One approach to such a sketch would be to attempt a historical account of ANTs emergence and transformation, but the implied linearity of a strictly chronological rendering is somewhat counter to the spirit of ANT. Better therefore to begin at some more or less arbitrary conceptual starting point, and to trace and reconstruct from there the various connections that make up the onto-methodological web.
Hybridity and Purification

Of the various starting points that might be selected, perhaps the most broadly inclusive of the various strands and developments within ANT over time, its multiple and changing ‘versions’, derives from the arguments of Bruno Latour (1993) in his book *We Have Never Been Modern*. Aptly this is also located roughly in the midst of what one might regard as the phase of ‘classic ANT’, during which the influence of the first decade of early ANT work is still very clearly traceable, while the roots of what will become ‘late ANT’ or ‘after ANT’ are also embryonic, but not yet dominant. This remarkable and expansive book can and has been read in multiple ways, and speaks to diverse disciplinary audiences. Somewhat unusually for ANT, which, as stated, often keeps its theorising very closely grounded in empirical cases, the core of the book is a sweeping philosophical and anthropological argument about the nature of the modern world, modern cosmology and modern knowledge, which throws into question, among other things, the established epistemological and ontological underpinnings of the social sciences vis-a-vis the natural sciences.

Latour (1993, 2004a) argues that knowledge in modernity is organised in terms of a fundamental division between two domains, a human domain of subjects and culture, and the a nonhuman domain of objects and nature, which are inscribed and understood as qualitatively distinct and incommensurable. Simultaneously epistemological, ontological and political, this dichotomy or ‘great divide’ is so entrenched, omnipresent and taken-for-granted in modern life as to have become almost invisible; it constitutes the most basic architecture for the organisation of modern thought and modern knowledge, or in Latour’s phrase, the ‘modern constitution’. That is the descriptive part of the argument, constituting an anthropology of modern knowledge; but the crucial point is ontological – that the world is not so divided. On the contrary, Latour argues, if one suspends all prior ontological assumptions and simply traces in the most thoroughly agnostic fashion the elements that make up any given situation, practice, technology, or institution, one invariably finds an intricate network of interrelations between diverse entities cross-cutting the imposed divisions between humans and nonhumans, culture and nature, subject and object. Moreover, these relations are not merely external relations, or interactions between pre-existing, separate entities, but are mutually constitutive and generative relations – what Karen Barad (2007) will later call ‘intra-actions’ – which give the constituent entities themselves their qualities, identity, significance and meaning. So it is not just that humans and nonhumans enter into relations with each other, but that they emerge and exist only in the context of these intra-actions, coming into being within processes and relations that are always already inclusive of multiple others. In Latour’s terminology, rather than a dualist world of humans and nonhumans, ANT posits a world of proliferating human-nonhuman ‘hybrids’, or ‘assemblages’ of heterogeneous actors.
The question arises as to how the modern constitution with its ‘great divide’ is able to sustain itself and achieve hegemony in the context of such pervasive hybridity. Latour’s (1993, 2005, 2013) answer is that modernity perpetually produces its own conditions of existence through an enormous epistemological work of disentangling humans from nonhumans and separating ‘culture’ from ‘nature’, carefully slicing the intricate threads that weave human and nonhuman together, and rearranging the heterogeneous entities in such a way that humans alone are registered in one domain and nonhumans in the other, transforming hybridity into duality. This is the ‘work of purification’ (Latour, 1993: 10–11), which disentangles humans from nonhumans and renders each domain pure. But modernity has always exhibited a double process, for at the very same time, in the socio-material practices of its science, technology and institutions, it has constructed increasingly complex assemblages connecting humans and nonhumans together ever more closely and intricately, even whilst its discursive practices have relentlessly disentangled and purified these hybrids. As Annemarie Mol (2002: 30–31) explains:

‘All modern thinkers, [Latour] claims, glorify their ability to distinguish between natural and social phenomena, disqualifying those who are “unable” to do so as premoderns. Meanwhile, […] in the practices of the modern world the natural and the social are as intertwined as they are in premodern thinking. This implies that there are clashes between the knowledge articulated in technoscience societies and the knowledges embedded in their practices. […] Therefore, modernity is a state we have never been in, for only our theories make modern divides. Our practices do not’. In this way, what Latour calls the ‘proliferation of hybrids’ (1993: 1–2) is constantly rendered invisible – the hidden underbelly of modernity’s dualist architecture, and the hidden basis of its peculiar dynamism.

If it has recently become possible to challenge the modern constitution, to acknowledge hybridity and to problematise purification, Latour suggests, this is not due to any autonomous development in theoretical understanding, but because the world itself has changed. The proliferation of hybrids has begun to overwhelm the work of purification, so that ongoing attempts to separate heterogeneous networks into discrete human and nonhuman components are becoming ever less convincing, and hybrids ever more visible. These erupt into modern consciousness as liminal entities with contested boundaries, manifest in the multiplication of all manner of socio-environmental, socio-technical and techno-political crises and controversies characterised by an excess of boundary-crossing complexity, from Colony Collapse Disorder to biotechnology and from geo-engineering to climate change. In short, the modern constitution is breaking down under the pressure of its own internal asymmetries and tensions, and the forms of modern knowledge bequeathed by purification are manifestly less and less well equipped to grasp the contemporary world. This has sweeping implications for the epistemological and ontological architecture of modern knowledge and the modern academic disciplines, not least for the social
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sciences, which Latour (1993, 2005) suggests have been deeply implicated in
the work of purification and in the reproduction of the modern constitution,
often taking a leading disciplinary role in maintaining the boundary between
humans and nonhumans, settling liminal cases and policing the great divide.

Distributive Agency

The task of ANT then might be said to be threefold: (i) to develop techniques
to trace and make visible the proliferating hybrids which pervade the modern
world; (ii) to reveal and problematise the discursive, epistemic and material
technologies of purification which otherwise obscure these hybrid networks;
and (iii) to identify and help to foster nascent alternatives to ‘the modern
constitution’, that is, non-modern ontologies and epistemologies that are
open to hybridity and which do not depend upon a dualist organisation of
the world. These three moments of ANT are intrinsically interconnected,
though they have rarely been pursued evenly or given equal emphasis within
ANT work. Much attention has been devoted to the first moment – the devel-
opment of techniques to follow hybrids as they repeatedly cross-cut the ‘great
divide’ between humans and nonhumans. In the context of a weakening but
still dominant modernist cosmology, this requires counter-intuitive thinking,
against the grain of commonsense and entrenched systems of categories. To
this end ANT has developed various tools for non-modern thinking in the
attempt to trace hybridity and unpick purification.

Among the most well-known of ANT’s tools for hybrid thinking are its
arguments concerning ‘agency’. A central concept in the social sciences, and
especially in sociology, agency is usually defined as the capacity of human
social actors to instigate action leading to change, and is conventionally asso-
ciated with human consciousness and reflexivity, the capacity to comprehend
a given situation or reflect upon a set of circumstances and to act in order to
reshape these circumstances to a greater or lesser degree. This usually forms a
duality with some notion of ‘social structure’ conceived as the conditioning
and constraining – or sometimes enabling – relations that exist over and above
the individual actor and shape the conditions in which agency operates. In one
form or another, this duality of structure/agency has preoccupied sociology for
decades and has been one of the central problematics shaping the discipline
and informing the various schools of sociological thought. ANT first achieved
some degree of notoriety for an argument that was replete with controversial
implications for this way of thinking, namely its contention that agency is not
exclusive to human beings, and that nonhumans also have agency (Callon,
1986; Latour, 1987). This has become the most widely recognised and icono-
clastic argument of ANT, so much so that ANT is sometimes reduced to little
more than the contention that ‘nonhumans have agency’, or even ‘objects have
agency’; it is therefore important to treat this formulation with care.
Though it is often taken to be a substantive claim about the nature of objects and nonhumans, ‘objects have agency’ is more appropriately seen as just one – albeit particularly dramatic – illustration of ANT’s wider effort to unthink dualist ontology. It is negative, deconstructive and even satirical in intent rather than positive and substantive, serving to highlight and call into question the striking anthropocentrism that underpins the conception of ‘agency’ taken for granted by much of social science. The main idea is not so much to extend agency as conventionally understood to nonhumans, as to redefine agency in such a way as to reveal the work of purification that underpins the whole conceptual architecture of ‘agency’ in the first place. To achieve this, ANT points to all of the ways in which human agency is not just constrained, but mediated, transformed and even enabled by nonhumans of diverse kinds, such that humans can only be perceived to act autonomously if their action is first disentangled from all of its nonhuman conditions and mediators (Michael, 1996, 2000). In this way the very idea of human agency as an exclusive capacity of human beings is shown to be the product of modern purification, since real human beings always act in the context of multiple constitutive interrelations with various other entities, whether objects, materials, technologies or organisms, which form the indispensable conditions of human agency and shape the very nature of that agency.

ANT goes further, suggesting that nonhumans can also ‘act’ in ways that are contrary to human intentions – in instances of socio-technical failure and disaster for example (Law, 2003) or where scientific or industrial interventions into complex bio-social systems precipitate unintended consequences (Law, 2006; Law and Singleton, 2009); for ANT these should be recognised as forms of agency, because they have consequences for multiple actors. Thus agency is effectively redefined as whatever makes a difference to the other actors – or less anthropomorphically, ‘actants’ – entangled in a network of relations. This is sometimes referred to as ‘distributed’ or ‘distributive agency’ (Latour, 1988, Akrich and Latour, 1992; Bennett, 2010), where agency is conceived as distributed between multiple actants within a heterogeneous collective or assemblage, and as a relationally generated effect rather than an inherent and exclusive capacity of certain kinds of entities such as human beings. This in turn helps to explain why a transformation in one actant or one element of a network can radically affect both the agency of the other actants and the efficacy of the network as a whole. These arguments concerning agency are closely aligned with - and contribute to - subsequent and parallel developments in posthumanist theory, since they similarly deconstruct the core humanist assumption of an autonomous human subject or human domain regarded as the source of all agency and meaning. For ANT, human beings are viewed more modestly as one actor among many in a world full of other forces, entities and agents. As Mike Michael (2000: 1) elegantly puts it:

‘There are no humans in the world. Or rather, humans are fabricated – in language, through discursive formations, in their various liaisons with tech-
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nological and natural actors, across networks that are heterogeneously comprised of humans and nonhumans who are themselves so comprised. Instead of humans and nonhumans we are beginning to think of flows, movements, arrangements, relations. It is through dynamics that the human (and the nonhuman) emerges’.

This postulation of nonhuman agency has engendered a good deal of controversy and has often provided the focal point for critics of ANT committed to retaining a more humanist conception of agency, who have typically argued that something crucial is lost if ‘agency’ becomes disassociated from the distinctively human capacities associated with linguistically mediated forms of reflexive consciousness and purposive social action (Amsterdamska, 1990; Collins and Yearley, 1992; Bloor, 1999; Vandenberghe, 2002). If ANT responses to such criticisms have sometimes been a touch casual or lighthearted in tone (Callon and Latour, 1992; Latour, 1999a), this is likely because ‘nonhumans have agency’ – though certainly a significant move – was never nearly as central to ANT as has often been supposed. It is better seen as a tactical provocation that is just one form of mobilisation of ANT’s wider strategy of ‘generalised symmetry’ (Callon, 1986; Latour, 1993). In order to explicate this further, it is necessary at this point to go back to the origins of ANT and to briefly outline some of the intellectual conditions of its emergence.

Generalised Symmetry

In the 1970s British and European sociological studies of science were beginning to differentiate themselves from the established Mertonian school of sociology of science. The latter was criticised for being a sociology of scientists that limited itself to social explanations of the context of science while leaving the content of science untouched, as though this were separate from social processes. The new approach challenged this by treating scientific knowledge itself as socially produced, constructed by social actors entangled in social processes and social relations, rather than reproducing science’s mythical view of itself as somehow autonomous of society and engaged in the production of transcendent truths. This ‘sociology of scientific knowledge’ or SSK was concerned with exploring the extent to which science, and scientific knowledge in particular, could be understood in terms of the same kinds of social explanation as the non-scientific knowledges studied by scholars in the field of sociology of knowledge.

The determination of SSK to treat science as just another branch of socially produced knowledge enabled many of the concepts and perspectives already established in the post-Kuhnian sociology of knowledge to be applied to the study of science. One important result was the notion that scientific knowledge is amenable to the same kinds of social explanation regardless of whether that knowledge happens to be ‘true’ or ‘false’. Previously it had been taken for
granted that only scientific failure was amenable to social explanation, whereas successful science required no social or historical explanation, since it was merely the result of the truth emerging ineluctably. But this was challenged by the conviction that both success and failure in scientific enterprises and innovations could and should be treated in the same manner, which is to say, ‘symmetrically’. The uncompromising approach that developed from this core idea became known as ‘the Strong Programme’, associated with the work of an influential group of scholars located mostly at the Universities of Edinburgh and Bath, including sociologists Barry Barnes (1974) David Bloor (1976), and Harry Collins (1985), and historians Steven Shapin (1975) and Donald Mackenzie (1981). The Strong Programme defined itself in terms of two key principles of ‘symmetry’: firstly, the principle that both scientific and non-scientific knowledge could and should be explained in the same way, that is, as socially constructed and secondly, the principle that the social production of ‘true’ and successful science could and should be explained in the same way as ‘false’, mistaken and failed scientific theories – in other words, the veracity of scientific knowledge neither exempts it from social explanation nor renders such explanation redundant. According to its proponents (Bloor, 1976, 1981; Barnes and Bloor, 1982), these principles of ‘symmetry’ were necessary if social studies of science were to avoid the trap of merely reproducing science’s mythical view of itself as unique, privileged and transcendent over society. In this respect the Strong Programme took its cue from the sociology of knowledge, where the notion that sociologists should maintain an ‘agnostic’ stance which refused to discriminate between ‘true’ and ‘false’ beliefs in forming social explanations of those beliefs was influential. A parallel idea in social and cultural anthropology was also of critical importance in casting off the colonial legacy of distinguishing the ‘superstitious’ beliefs of indigenous and non-Western peoples from the ‘true’, rational knowledge of Western science. Post-colonial anthropology was increasingly committed to the principle that adjudicating on the empirical truth or falsity of a belief is not what is important from a social perspective, and that what matters is the social meaning of the belief as part of a worldview, and how this shapes social activity and social relationships (Kuper, 1999). For advocates of the Strong Programme this agnostic or relativist stance was also the correct approach in sociological studies of scientific knowledge.

In addition to the Strong Programme’s principles of symmetry, another important current contributing to the intellectual conditions of emergence of ANT was the sociological tradition of ethnomethodology, initiated principally by Harold Garfinkel (1967), who sought to study the construction by social actors of everyday social knowledge and to uncover the ‘methods’ routinely used by actors in ordinary social interaction. Ethnomethodologists distinguished their approach sharply from mainstream sociology by claiming that the latter had generally failed to acknowledge the cultural competence of social actors in constructing reflexive accounts of social reality, and that it had
thereby assumed a falsely ‘objective’ perspective which failed to realise that professional sociological accounts were exactly the same sorts of constructions as those it purported to study. Ethnomethodology, therefore, urged sociologists to abandon the naïve notion of studying ‘social reality’ and instead to examine social actors’ methods of construction of the everyday social knowledge constitutive of their social reality. Many key contributors to the SSK were influenced by this reflexive concern with the relationship between sociological and everyday knowledge, and an emergent cross-fertilisation of the ideas of symmetry and reflexivity was pivotal for the development of ANT.

The development of Science and Technology Studies involved the extension of a strongly social approach to studies of technologies and socio-technical systems and its transformation into an international interdisciplinary field committed to critically examining the sociology, anthropology, history and politics of science and technology. But for those who became the architects of ANT there was still an inconsistency to be resolved; the social sciences were devoting considerable efforts to showing that science was socially constructed, while continuing to tacitly exempt the social sciences themselves from such an approach. The ‘facts’ of nature, ‘natural’ things, that is to say the objects of science, had been shown to be constructed within ‘the social’, or more precisely, produced within social practices undertaken by human beings in constitutive interaction with a variety of materials, objects and technologies. But the converse was not true; the role of the ‘non-social’ or nonhuman in constructing the ‘social facts’ of sociology was still being neglected, hence ‘the social’ was still being tacitly purified of nonhumans. It followed that the symmetry of the Strong Programme did not go far enough; if the knowledge produced by the social sciences was to be treated in the same way as the knowledge produced in the scientific laboratory, then the implications of the role of nonhumans in the process of construction itself had to be properly acknowledged. This would transform the meaning of ‘construction’ profoundly, ushering in what some have called ‘post-constructivism’ (Asdal, 2003), for it is no longer consistent to speak of ‘social’ construction when ‘social’ things and ‘social’ relations – the very objects of the social sciences – are themselves produced within practices that are constitutively inclusive of nonhumans, ‘natural’ processes and forces, technologies, objects and materials, all of which mediate ‘the social’ in a mutually constitutive entanglement with what we might previously have thought of as ‘nature’ or the ‘non-social’. The result of thinking these reflexive moves simultaneously is generalised symmetry, where the foundational essentialisms on both sides of the former ‘great divide’ collapse, not into ‘social construction’ but into heterogeneous assemblages and situated co-constructions of ‘social’ and ‘natural’ alike.

Of particular importance in the unfolding of these developments was the emergence of an ethnographic approach to science. In Bruno Latour and Steve Woolgar’s (1979) landmark book *Laboratory Life: The Construction of Scientific Facts*, key elements of the methodological repertoires of anthropology and
ethnomethodology were applied to science as everyday social activity. Thus the laboratory with all of its equipment, and the social activities of scientists, were studied as though they were the ritual objects and practices of an unfamiliar culture. This bold methodological innovation made it possible for the researchers to examine closely how scientific ‘facts’ were actually constructed and made durable in the laboratory setting. It also highlighted the fact that this production of knowledge did not just involve human beings and their social actions, but was dependent upon a whole array of nonhumans: material things, including laboratory equipment, machines and chemicals; organisms and animals such as rodents; apparatus for measuring; ‘inscription devices’ – instruments for writing and recording; published and unpublished documents of all kinds. Thus examined, the process of knowledge production was not just ‘social’, in the narrow sense of being a product of human activities, but was a construction accomplished within heterogeneous socio-material practices in which multiple human and nonhuman actants were woven together. In this way many of the central ideas of ANT emerged from ethnographic approaches to laboratory scientific practices.

Mediation and Translation

Because of its widespread reception as an approach centring upon a consistent rejection of binary categories, ANT is often regarded as a kind of anti-dualism. That is not incorrect per se, but it is incomplete and somewhat reductive, and it mistakes what is actually a corollary of ANT for its very core. While one crucial implication of generalised symmetry is indeed the abandonment of modernist dualisms rooted in the ontological purification of ‘humans’ and ‘nonhumans’, this is only the critical starting point for an analysis that seeks ways to proceed without such dualism (Latour, 1993, 2005, 2013). ANT does not end matters with the general argument that entities on each side of modernity’s great divide are constitutively entangled in heterogeneous networks or hybrid assemblages – the point is to then trace how the objects and relations on each side are assembled and stabilised through these networks as they perpetually cross from ‘human’ to ‘nonhuman’ and vice-versa. Thus the task is to unearth the ways in which the objects in each domain depend for their durability upon relations that are deeply heterogeneous, so that the apparently ‘social’ is always more than social, and the apparently ‘natural’ always more than natural. The influential conception of ANT as a ‘sociology of translation’ (Callon, 1980, 1986) foregrounds precisely this work of tracing and revealing the hybrid networks underpinning purified entities, bringing together the recognition of nonhuman agency and the concern with how ‘social’ relations are mediated through ‘non-social’ things.

Drawing the metaphor of ‘translation’ from the work of the philosopher of science Michel Serres (1974), Michel Callon posits the sociology of trans-
lation as a method for understanding how networks of heterogeneous actors are formed, stabilised and reproduced. A useful way to understand this is by way of a heuristic comparison with a very different way of thinking, namely Marx’s (1976) well-known theory of commodity fetishism, which refers to a state wherein social relations between people and material relations between things become conflated, due to capitalist relations of production; thus, social relations become reified and take on the appearance and characteristics of relations between objects, while objects themselves – and Marx’s concern of course was with commodities in particular – come to acquire the subjective qualities of human relations, and are attributed social significance and meaning well beyond their objective material qualities. For Marx this was a distortion of social relations engendered by capitalist social and economic organisation; hence, his critique of commodity fetishism was predicated upon a powerful normalisation of the separation and purification of humans and nonhumans, and the belief that each properly belongs in its own discrete domain. Whereas for ANT, in sharp contrast, such hybrid intermixing of humans and nonhumans in heterogeneous networks, where human relations are mediated by material entities and vice-versa, is not a distortive departure from some authentic state of ontological purity, but is – on the contrary – the very constitutive matrix of ‘the social’.

In a widely discussed study of the network of marine biologists, fisherman and scallops of St Brieuc Bay, Callon (1986) defined four moments of translation: problematisation, interressement, enrolment, and the mobilisation of allies. Problematisation involves the framing of a problem which requires a network to be assembled; this is a negotiation between actors, and is inherently political, since the definition of the problem arrived at begins to define the relevant actors and their roles, who or what those actors are and whom or what they represent, as well as the relations between them. Callon suggests that a primary or dominant actor usually emerges during this moment of translation and tries to establish itself as an ‘obligatory passage point’, that is, an indispensable mediator between the network and the other actors, which cannot be bypassed and is therefore central to the assemblage. The next moment of translation is interressement, wherein the terms of involvement of the various actors are negotiated and established, and the dominant actor attempts to secure acceptance of the roles it has defined; once the actors accept their roles within the network, this is enrolment. The final moment of translation concerns how adequately the actors appear to represent ‘the masses’, meant both in the sense of groups or collectivities and also the multiple nonhumans, objects and technologies that such groups are invariably bound up with, inseparable from, and constitutively mediated or ‘translated’ by. If the masses are adequately represented, then translation becomes active support, or mobilisation. It also transpires that in the sociology of translation every actor can be further broken down into a heterogeneous assemblage,
and such assemblages enrol and mobilise other heterogeneous assemblages, and so on, in what is therefore a radically anti-essentialist ontology.

An oft-remarked and distinctive characteristic of this actor–network ontology is its ‘flatness’, its refusal to seek recourse to any kind of depth-ontology, any concept of ‘underlying’ or ‘overarching’ structures, or any rigid distinction between ‘micro’ and ‘macro’ regarded as distinct ontological levels (Callon and Latour, 1981; Latour, 1983; Latour et al., 2012). Instead every element of the network is held to gain its identity, meaning and significance only from its relations with the other actants in the network. This kind of relational logic is often associated with semiotics, a tradition with its origins in the structural linguistics of Ferdinand de Saussure (1959), who showed that it was not some connection between signifiers and their real-world referents that underpinned meaning within a language, but the relationship between the signs themselves within the language as a whole, understood as a system of signs; it followed that meaning was fundamentally relational and immanent. The influential notion of ‘material-semiotics’ (Haraway, 1997, 2003; Law, 2008) draws upon this relational logic but extends its scope by eschewing the distinction between materials and signs, positing not merely the relational basis of meaning but the relationally constituted nature of the material and social worlds alike, the distinction between which is elided, since it is itself a relational effect of the modernist divide rather than something given. Critical responses to ANT have sometimes centred upon the perceived failings of this ‘flat’, agnostic, relational ontology, suggesting that it represents an obstacle to the critique of entrenched and persistent relations of power.

Ontological Politics

It is true that the sociology of translation and its inheritors eschew the conceptions of power characteristic of certain kinds of critical approach, where power is implicitly located in some abstract ontological space, imagined as variously ‘beneath’, ‘behind’ or ‘over and above’ concrete social situations and interactions, even while shaping those situations and interactions in systematic ways that give rise to ‘structural’ relations. From an actor–network perspective this is no less tautological than explaining the success of scientific theories or technical innovations by reference to their ‘truthfulness’, because it mistakes what is actually an outcome and a complex accomplishment for a cause; thus power ends up being deployed as an explanatory resource in a way that leaves power itself unexplained, and inexplicable. ANT in contrast seeks to trace in detail how power comes into being and operates concretely through myriad socio-material devices or ‘political technologies’. There are widely noted parallels here with Michel Foucault’s (1976) conception of ‘the micro-physics of power’, which similarly disdains
the theoretical invocation of power as an abstract force or absent presence, instead focusing upon detailed analytical description of the specific techniques, rationalities, mechanisms and arrangements which constitute the capillaries of power in social and material situations. But whereas, for Foucault, power is organised and structured by discourses and epistemes, and generative of subjectivities and social formations, ANT does not accord quite the same ontological and generative primacy to power, but instead grasps power in relational terms, as a product of the relative stabilisation of certain kinds of heterogeneous network assemblage (Law, 1991a). As the building blocks of power are nothing more than chains of association between multiple actants, all subject to change and dissolution, it is therefore more precarious, more local and multiple, and rather less overarching than the concepts of ‘discourse’ and ‘episteme’ tend to imply (Mol, 2002: 62–70).

Actor–network approaches to power developed initially in the context of social studies of scientific innovations and socio-technical systems (Law, 1986b; Callon. 1987), before migrating into other fields. In pursuing a consistently symmetrical approach to science, which refused to explain scientific success or failure by reference to the truthfulness or otherwise of the content of science, ANT was compelled to seek the determinants of success or failure solely in the networks of associations within which scientific innovations are realised and propagated. Thus, rather than treating science as a monolithic entity with unique access to the reality of nature, science was grasped as a series of ensembles of situated knowledge-practices, that is to say, knowledge-making activities embedded in socio-material practices. The power of science therefore came to be understood not in terms of the degree of correspondence between an autonomous content and an exogenous reality or ‘nature’ assumed to pre-exist and transcend it, but instead as something accomplished within the networks through which science operates and circulates, and which constitute the theatres of proof that enable the truths of science to be perpetually performed and reaffirmed, until they become entrenched as durable realities, ‘obligatory passage points’ or matters of fact (Callon, 1986; Law, 1986b; Bowers, 1992). Since there can be no a-priori distinction between scientific and non-scientific knowledge practices, the question that arises is how to explain the peculiar power of science, its remarkable reach and durability.

For ANT the answer lies in the striking heterogeneity of science’s networks, the remarkable capacity of science to enrol and mobilise a diverse array of allies, including nonhuman entities and materials as well as human actors and social collectivities, into the networks which mediate and enact its objectivity through a perpetual performative circulation of objects, organisms, instruments and texts (Latour and Woolgar, 1979; Latour, 1986). At the same time, modern scientific discourse performs a work of purification which renders these nonhumans invisible, so that what remains has the appearance not of a densely hybrid network of translations but of a collection of facts regarded as direct revelations of an external nature or real world. In this way...
science becomes the master code or obligatory passage point par excellence for modern knowledge practices. It is a short step from this network account of the dominance of scientific knowledge to an assemblage theory of power and domination more broadly. In taking this step, ANT began to travel from social studies of science and technology into the terrains of other social science disciplines, and especially sociology, in a way that significantly affected its subsequent development. Indeed a significant strand of ANT work in the late 1980s and the 1990s was concerned with articulating a distinctive approach to power and domination in social life, which broke with the binary ways of thinking in terms of structure–agency and micro–macro that so often framed sociological approaches to power (Law, 1986c, 1991b). Science and technology often remained a key element in this work, which emphasised the relational materiality of power and its sociotechnical mediation. John Law’s article (1986a) ‘On the Methods of Long Distance Control’ for example, examined the Portuguese colonial expansion of the late 15th and early 16th century, in a detailed analysis of how the assemblage of Portuguese ship-building, navigational and disciplinary technologies enabled the consistent and reliable ‘action at a distance’ that is essential to the exercise of power by a colonial centre over a periphery. In this way Law was able to demonstrate that social power is never purely ‘social’, but is inseparable from the technological, the economic, the political and the natural. As he explains (1986a: 234–5):

‘My argument is that the Portuguese effort involved the mobilisation and combination of elements from each of these categories. Of course kings and merchants appear in the story. But so too do sailors and astronomers, navigators and soldiers of fortune, astrolabes and astronomical tables, vessels and ports of call, and last but not least, the winds and currents that lay between Lisbon and Calicut’.

Thus power is posited not as some anonymous field of forces operating within an autonomous ‘social’ domain, nor as a ‘macro’ level phenomena which acts as a ‘structural’ constraint upon social agents inhabiting ‘micro’ realities, but rather, as a socio-technical accomplishment, the product of multiple socio-material assemblages of devices, inscriptions, materials and bodies as well as signs, arranged and articulated in such a way as to enable the extension and circulation of the assemblage and the relations it mediates over a significant territory while remaining relatively stable and durable.

One striking implication of this approach is that it implies a view of politics as performative, that is, as something that is enacted, instantiated, brought into being in certain situations and particular sets of relations, rather than something that is always there as an elusive absent presence shaping social situations from some inaccessible ontological space. One might say that the existence of power precedes its essence. The possibilities inherent in this performative approach are drawn out and further developed in the notion of ‘ontological politics’, a term coined by Annemarie Mol (1999) which directs attention to the ways in which certain sets of socio-material arrangements perform their own realities, whilst other potential realities – other ways of
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being – are excluded, made absent and sometimes rendered invisible, as though they never existed even as possibilities. This is also a theory of multiplicity, since it involves the contention that realities – as enactments embedded in particular practices – are always local and multiple; hence, realities co-exist and overlap, and can also be in tension with one another, in which situation the struggle between actants to enact one reality rather than another becomes a political matter, a matter of ‘ontological politics’.

This conception of politics not merely as a struggle between differently situated social actors or a constant work of disciplining bodies and populations, but as a process of contestation – or in Mol’s term, ‘interference’ – between multiple, enacted realities encompassing heterogeneous elements, has enabled ANT-influenced analysis to trace the ontological work of power and the political work of ontology in very fine-grained socio-material analyses. In Mol’s (2002) The Body Multiple for example, she draws upon ethnographic fieldwork conducted in a hospital to show how the disease known as atherosclerosis is not a single object but what she calls a ‘multiple’, enacted differently in different sites and different knowledge-practices by different configurations of material-semiotic actants. Hence, clinical atherosclerosis and pathological atherosclerosis for instance are not just alternative perspectives on one reality or different ways of looking at a single object; on the contrary ‘[t]he practices of enacting clinical atherosclerosis and pathological atherosclerosis exclude one another. The first requires a patient who complains about pain in his legs. And the second requires a cross section of an artery visible under the microscope. These exigencies are incompatible, at least: they cannot be realised simultaneously. [...] It is a matter of patients who speak as against body parts that are sectioned. Of talking about pain as against estimating the size of cells. Of asking questions as against preparing slides. In the outpatient clinic and in the department of pathology, atherosclerosis is done differently’ (Mol, 2002: 35–36).

Similarly, in a substantial body of work associated especially with Michel Callon (1998a, 1998b, 1999, 2007), the socio-materiality of financial markets is examined in detailed analyses of ‘market devices’ – informational and digital technologies of quantification and visualisation, which not only enable the operation of financial markets but enact as ‘real’ the flows of capital through those markets, in what amounts to a performative political economy.

After ‘Networks’ and ‘Theory’

An influential collection published at the turn of the century was tellingly entitled Actor–Network Theory and After (Law and Hassard, 1999). It contained several essays suggesting that while many of its insights should be taken forward and could productively inform future work, it was time to end the project of ANT as such, which for various reasons had either ceased to be fruitful or had begun to become outmoded or unhelpful. In the opening essay, John Law argued that a crucial condition of ANT’s potency had always
been its insistence on maintaining a productive tension between the notions of ‘agency’ and ‘network’, and refusing to resolve this tension whilst also eliding and challenging its terms; for Law this is implicit in what he calls the ‘intentionally oxymoronic’ concept of an ‘actor–network’ (1999: 5). But this productive tension had been progressively undermined, he suggested, by the increasing tendency to read and understand ANT precisely as a ‘theory’, with all the smoothness and consistency that word implies, as though it were a ready-made set of ideas that could be boiled down to a few precepts and ‘applied’ to any given empirical case (1999: 6). This echoes the point made in the introduction to this article concerning the problems inherent in grasping ‘actor–network’ thinking as a ‘theory’; but Law goes further than urging a rethinking of ANT’s ‘theoretical’ status, arguing that the ‘actor–network’ paradigm and associated terminology is no longer fully capable of achieving its intellectual objectives, principally because far too often it no longer involves a necessary reckoning with complexity, tensions and incoherencies, but has instead become just another ‘theory’ that functions as a shortcut allowing such complexity to be avoided. In response Law suggests a greater attentiveness to ‘topological complexity’, understood as the contours of fluid interrelations and interferences between forms of space and modes of ordering through which non-Euclidean spaces are relationally constituted, as a fruitful avenue of enquiry for an ‘after ANT’ sensibility (1999: 6–7). It did not turn out to signal the end of ANT, but the publication of this collection did signpost the beginning of a new phase of ‘late ANT’ or ‘after ANT’ in which there was more concern with spatiality and topological complexity, and greater attentiveness to alterity and incommensurability.

A parallel if somewhat different argument was made by Bruno Latour (1999b) in his essay ‘On Recalling ANT’, which argued that the ‘network’ metaphor was no longer fit for purpose, in large part because of the emergence of the World Wide Web, which had changed its signification irreparably, away from a useful association with mediation understood as translation and transformation, and instead towards ‘double click networks’ wherein ‘network’ became associated with instant transfer of ‘information’, and connection without transformation, notions that are antithetical to ANT. Latour was also emphatic that ‘actor–network’ was never intended to be an alternative to ‘agency-structure’, or to overcome the structure-agency contradiction. As he puts it, ‘Contradictions, most of the time and especially when they are related to the modernist predicament, should not be overcome, but simply ignored or bypassed’ (1999b: 16); although he does acknowledge that ‘the hyphenated term made it impossible to see clearly the bypass operation that had been attempted’. For Latour this ‘bypass’ ironically depends upon the idea that the social does not consist in some relationship or oscillation between structure and agency or micro and macro, which are unhelpful social scientific inventions, but rather in a continual process of circulation. Indeed ‘society’ is not an ontological ‘thing’ at all, nor a domain consisting of essentially ‘social’ stuff, but
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is rather a circulating entity or circulating reference, something continually enacted or performed in local situations. These situations are not ‘micro’ situations however, for they contain all of the elements usually ascribed to the ‘macro’, which itself does not exist except as a ‘summing up of interactions through various kinds of devices, inscriptions, forms and formulae, into a very local, very practical, very tiny locus’ (1999b: 17). In this way Latour seeks to position – or perhaps to reposition – ANT here as something which in important ways is parallel to ethnomethodology, that is, as a certain kind of methodology rather than a theory, and more specifically a methodology centrally concerned with tracing the ways in which actors build their own worlds. As he puts it:

‘ANT is a way of delegitimating the incredible pretensions of sociologists […] Far from being a theory of the social or even worse an explanation of what makes society exert pressure on actors, it always was […] a method to learn from the actors without imposing on them an apriori definition of their world-building capacities’ (1999b: 20). On this basis, one might venture that ANT amounts to something like a symmetrical or post-humanist ethnomethodology, more akin to a debunking exercise designed to clear the ground of all the accumulated conceptual obstacles to seeing things clearly, than to a set of theoretical postulations about what the world – social or more than social – is ‘really like’.

These influential essays sought paradoxically to rehabilitate the spirit of the original project of the sociology of translation by drawing ‘ANT’ as such to a close, acknowledging its limitations and failures. While continuing to defend ANT against the arguments of some its critics, they nonetheless go remarkably far in accepting that the responsibility for the recurring misconceptions that lie at the root of these arguments must in significant part lie with ANT itself, for its failure to communicate. In one sense this did mark a kind of ending, in that the threads which thus far had just about held ANT together, as something that could still be broadly understood as a unitary project, now began to unravel, and ANT-influenced thinking after the turn of the century underwent significant further fragmentation. But this proved a beginning as much as an ending, as subsequent years have not seen the gradual fading away of ANT but rather a flourishing of material-semiotic thinking as its insights and concerns have circulated ever more widely through an expanding network of disciplines and fields, undergoing numerous productive translations and transformations in the process.

Transformations and (Crossed-out) Traces

Latour was ready to declare in 1999 that ‘there are four things that do not work with ANT; the word actor, the word network, the word theory and the hyphen! Four nails in the coffin’ (1999b: 15), and to suggest that the Deleuze-inspired term ‘actant-rhizome methodology’ might have been a more suitable nomenclature. By 2005 he was more sanguine, musing that the acronym
ANT was ‘a perfect fit for a blind, myopic, workaholic, trail-sniffing and collective traveller’ (2005: 9). In this spirit Latour has since sought to rearticulate and refine rather than to abandon or fundamentally redefine the ANT project, assuming the role of its chief explicator and disseminator. He has directed particular efforts towards improving the understanding of actor–network ideas among social theorists and sociologists, who have often misread ANT through the prism of assumptions still deeply entrenched in modernist – and associated post-modernist – paradigms of social thought. Indeed Latour’s most widely cited book is framed as an introduction to ANT for social theorists; *Reassembling the Social: An Introduction to Actor–Network Theory* (2005) contributes to ANT’s longstanding articulation of a post-dualist, processual and relational ontology, arguing at length that a new ‘sociology of association’ is required in order to clear away the many conceptual obstacles that are embedded in the dominant ‘sociology of the social’. Instead of treating sociological abstractions like ‘social relations’ as elementary building-blocks of ‘the social’ capable of explaining social phenomena, a sociology of association, for Latour, means thinking through the material devices, technologies, translations and connections through which otherwise weak, transient and local social bonds and social relations are made extensive and durable. In this way ‘the social’ is grasped as a remarkable accomplishment, the product of myriad feats of material-semiotic engineering that enable consistent and stable relations to hold across space and time.

Recent years have seen Latour spearhead a rediscovery and revival of late 19th-century French sociologist Gabriel Tarde, whom he has posited and celebrated as an important forerunner of this alternative vision of sociology (Latour, 2002, 2010; Candea, 2010; Latour et al., 2012). This has involved identifying harbingers of many aspects of actor–network topology and the ‘sociology of association’ in Tarde’s intellectual disagreements with his contemporary Emile Durkheim, who is consistently cast as the most influential architect of the sociology of ‘the social’ as a thing-like macro-object. In his book *An Inquiry into Modes of Existence* (2013), Latour extends this by returning to the ambitious task of articulating the outline of a non-modern constitution, within which we might find ways to think through ‘modes of existence’ in their hybridity, multiplicity and complexity, without falling into the purifications and reductions inherent in the ontological, organisation of modern knowledge.

Meanwhile John Law has pursued a turn to topological complexity through numerous works undertaken in a poststructuralist ‘after ANT’ mode, often exploring the tensions between ordering or rationalising processes and ‘messy’ materialities, irrationalities and fluidities (Law 2002, 2003). In *After Method: Mess in Social Science Research* (2004), these themes are worked through an explicit focus on methodology in social science, arguing that the established social scientific approaches to research methods presuppose coherent representations of an ordered world, and in doing so not only actively obscure the
contingency, disorder and incoherence that characterise so much of socio-material life, but also obscure their own performative role in enacting the very forms of order which they purport to reflect and represent. Methods, in this view, are not only performative practices but are also political – they are performative political technologies or ‘method assemblages’ engaged in an often-invisible ontological politics of method. Law therefore advocates, firstly, an attention to ‘mess’ rather than method, an attentiveness precisely to those ‘things which do not fit’, which do not conform to the rationalist mould of ‘method’, but which instead tend to resist the metaphysics of ‘representation’; and secondly, a heightened awareness of the ontological politics of method and a commitment to grasp methods not just as a technical means of representing a separate reality, but as active components of – and interventions in – that very reality (Law and Singleton, 2013). This performative politics of methodology has been influential, contributing to a wider move to problematise social scientific methods in their tendency to reinscribe certain dominant realities while rendering others absent (Ruppert et al., 2013). This current has also cross-fertilised with developments in ‘non-representational theory’ (Thrift, 2008), which makes a parallel move by questioning the ontological and spatial politics of ‘representation’ as a certain kind of world-building practice, and exploring other ways of doing ‘theory’, as embodied, embedded, multi-sensory and affective practice.

Moving away from the trajectories of some of its core protagonists, versions or elements of some of ANT’s characteristic ideas have been translated and mobilised within an expanding range of fields, including: economics and organisation studies; social studies of medicine, bodies and disabilities; human and social geography; environmental studies; human–animal studies and social studies of art, museums and culture as well as a steadily increasing influence in sociology and a continuous presence in social studies of science and technology. It is not possible here to provide more than a brief indicative sketch of just a selective few of these developments: In social geography a significant strand of work has explored the implications of heterogeneous and non-modern ontologies for understandings of space, leading to the emergence of ‘hybrid geographies’ as part of a wider ‘spatial turn’ exploring the complex topologies of ‘more than human’ socio-spatial worlds (Hetherington and Law, 2002; Whatmore, 2002; Thrift, 2006; Hinchcliffe 2007). In environmental studies, ANT approaches to disassembling society/nature dualism, and especially Latour’s work on the Politics of Nature (2004a), have fed into increasingly nuanced conceptions of the co-construction of hybrid ‘societies-natures’, and the ontological politics of ‘natures’ as multiple and contested socio-material enactments (Irwin, 2001; Murdoch, 2001, 2003). While in the burgeoning interdisciplinary field of human–animal studies, ANT’s deconstruction of humanism and its insistence upon non-human agency have been taken up by those seeking to challenge discourses of human exceptionalism, trace socio-material relations across species bounda-
ries, and excavate the anthropocentrism embedded in both social and scientific epistemologies (Jones, 2003; Bingham, 2006; Nimmo, 2012).

Ideas from ANT have also found productive resonances within currents in posthumanist feminist theory, including Donna Haraway’s material-semiotics (1997, 2003), Karen Barad’s (2007) ‘agential realism’, and what is often referred to as ‘new materialism’ (Bennett, 2010; Coole and Frost, 2010; Connolly, 2011). Haraway’s distinctive body of work especially has provided an always-instructive parallel to ANT, its more explicit political commitment to feminism and the critique of capitalism serving to highlight by way of contrast what has sometimes been perceived as the uncritical stance of ANT, which has tended to eschew critique and has rarely taken up an explicitly critical stance (see Latour, 2004b). But this is cast in a rather different light when ANT is understood as essentially an onto-methodology rather than another kind of social theory, ‘critical’ or otherwise, and the suggestion that ANT should be understood as a kind of symmetrical ethnomet hodology is worth recalling in this connection. Nevertheless, the comparison with Haraway’s avowedly critical version of material semiotics is significant, especially given how much is shared by these approaches, not least the determined decentring of the human subject in a web of heterogeneous relations, the processual socio-material ontology and the vision of mutual co-construction of humans and nonhumans in a profoundly hybrid world. Agential realism’ and ‘the new materialism’ share these themes as well: Barad’s provocative rearticulation of post-constructivism as a new kind of performative and non-representational realism which is attentive to co-constitutive emergence and generative ‘intra-actions’, very much aligns with Latour’s efforts to rebut the notion that ANT is in any sense ‘anti-realist’ (see Latour, 1999c); while the diverse strands of the ‘new materialism’ share an emphatic embrace of material and nonhuman agencies, or what Jane Bennett calls ‘the vitality of matter’. Without eliding the many nuanced differences between these intellectual currents, on a broad view they might with some justification be seen, if not as perfect allies of ANT, then certainly as fellow travellers.

It is perhaps ironic that just as diverse mobilisations of material semiotics or parallel approaches have breathed new life into the project, the sense of a connection to ANT has often begun to be lost in the extending chains of mediation and translation. Thus many ostensibly new and cutting edge concepts and approaches turn out upon careful examination to be re-articulations of rather longstanding ANT ideas, albeit couched in new terminology with slightly altered inflections. Tracing and reconstructing these translations in an effort to establish the intellectual genealogy and avoid reinventions of the wheel would be a thankless exercise in conceptual and methodological archaeology, no doubt doomed to be unable to keep pace with the institutional dynamics driving such pseudo-innovation. It would also be contrary to the self-effacing spirit of ANT, which has always showed great reluctance to engage in intellectual turf wars, and was never about theoretical empire-building. On the contrary, if
its ideas become transformed, fragmented, reassembled and redistributed, the traces kicked over and the intellectual genealogy traduced, that would be a rather fitting fate for the sociology of translation and mediation. Suffice it to say, however, that while its star may have begun to wane somewhat as a modish theoretical approach, the influence of ANT as a methodological sensibility and set of resources for thinking beyond the modern paradigm continues to circulate – often invisibly – throughout the knowledge-practices of the social sciences and beyond.

References


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