

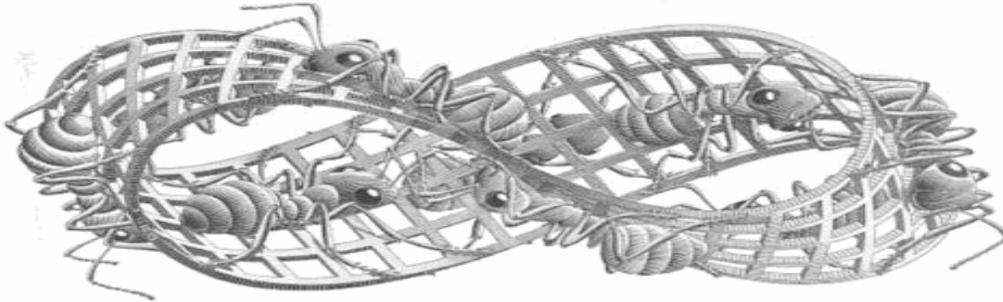


EDCP 585

Fieldwork in Actor-Network Theory

Lecture Notes

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1. Actor-Network Theory (ANT) aka “Sociology of Translation” or “Sociology of Associations”

II. History of ANT

a. Actor-Networks

i. **History of ANT: Origin Stories**

1. Secondary Sources

a. Evarts, S. (2011). [*Translating the translators: Following the development of actor-network theory*](#)

- i. How has ANT gone from being born in Paris, France in the early 1980s to becoming one of the most prominent theories in STS today?
- ii. There has been a smattering of studies on the progression of ANT within specific disciplines and sub-disciplines, such as management/organization studies, information studies, and geography. (p. 14)
- iii. Studies on how ANT has spread across and been translated into subject areas are few and far between. Many studies offhandedly state that, “[t]hroughout the 1980s and 1990s, ANT figured prominently in studies published in sociology, technology, feminism, cultural geography, organization and management, environmental planning, and health care,” but fail to provide any empirical evidence to support such a sweeping claim. Other studies that do provide empirical evidence regarding ANT’s diffusion and translation only focus on its incorporation within a specific discipline or sub-discipline. Somewhat surprisingly, considering the enormous quantity of literature on ANT, there appears to be no study that systematically track ANT’s evolution across a variety of disciplines.
- iv. The paucity of previous studying empirically tracing ANT is bolstered by other studies that provide a more arbitrary and interpretive map of ANT’s evolution, such as Law’s article that provides four different “origin stories” of ANT,

explaining that any “stories of its origins are necessarily in part arbitrary,” as all such accounts “lay claim to and include a particular version of the past created for particular purposes.” Thus, any account of ANT, whether it be quantitative or qualitative, is necessarily just one lens from which to view its progression, and is, as such, arbitrary. (p. 16)

2. Primary Sources

a. **ANT, ca., early to mid 1980s**

b. Callon & Latour, “Unscrewing the Big Leviathan: How actors macro-structure reality and how sociologists help them to do so,” (1981, p. 280): *There are* of course macro-actors and micro-actors, but the difference between them is brought about by power relations and the constructions of networks that will elude analysis if we presume a priori that macro-actors are bigger than or superior to micro-actors. These power relations and translation processes reappear more dearly if we follow Hobbes in his strange assumption that all actors are isomorphic. Isomorphic does not mean that all actors have the *same* size but that *a priori* there is no way to decide the size since it is the consequence of a long struggle. The best way to understand this is to consider actors as networks. Two networks may have the same shape although one is almost limited to a point and the other extends all over the country, exactly like the sovereign can be one among the others and the personification of all the others. The financier's office is no larger than the cobbler's shop; neither is his brain, his culture, his network of friends nor his world. The latter is 'merely' a man; the former is, as we say, a 'great man'.

3. **And in the beginning was the network... the *réseau***

a. Latour, *Reassembling* (2005, p. 129): The word network is so ambiguous that we should have abandoned it long ago. And yet the tradition in which we use it remains distinct in spite of its possible confusion with two other lines. One is of course the technical networks— electricity, trains, sewages, internet, and so on. The second one is used, in sociology of organization, to introduce a difference between organizations, markets, and states (Boyer 2004). In this case, network represents one informal way of associating together human agents (Granovetter 1985). When (Castells 2000) uses the term, the two meanings merge since network becomes a privileged mode of organization thanks to the very extension of information technology. It's also in this sense that Boltanski and Chiapello (2005) take it to define a new trend in the capitalist mode of production. But the other tradition, to which we have always referred, is that of Diderot especially in his *Le rêve de d'Alembert* (1769), which includes twenty-seven instances of the word *réseaux*.

b. Latour, *Reassembling* (2005, pp. 128-131): Defining at last what a network is:

i. I would define a good account as one that traces a network. I mean by this word a string of actions where each participant is treated as a full-blown mediator. To put it very simply: A good ANT account is a narrative or a description or a proposition where all the actors do something and don't just sit there.... Thus, the network does not designate a thing out

there that would have roughly the shape of interconnected points, much like a telephone, a freeway, or a sewage 'network'.... Network is a concept, not a thing out there. It is a tool to help describe something, not what is being described. It has the same relationship with the topic at hand as a perspective grid to a traditional single point perspective painting: drawn first, the lines might allow one to project a three dimensional object onto a flat piece of linen; but they are not what is to be painted, only what has allowed the painter to give the impression of depth before they are erased. In the same way, a network is not what is represented in the text, but what readies the text to take the relay of actors as mediators. The consequence is that you can provide an actor-network account of topics which have in no way the shape of a network— a symphony, a piece of legislation, a rock from the moon, an engraving. Conversely, you may well write about technical networks— television, e-mails, satellites, salesforce— without at any point providing an actor-network account. Law and Callon (1988, p. 285): In what follows we use the notion of *network* to talk about the interconnected character of the social and technical. We use this notion in a way that differs quite fundamentally from standard usage in sociology. Thus we are not primarily concerned with mapping interactions between individuals.... A network metaphor is thus a way of underlining the simultaneously social and technical character of technological innovation. It is a metaphor for the interconnected heterogeneity that underlies sociotechnical engineering.

c. Who then put the “actor” in actor-network theory?

- i. In the early eighties, in an article in French, Callon was the first to speak of *acteur-reseau*. A short while later this term was translated and transformed to become actor-network in English.
- ii. “The Sociology of an Actor-Network,” Callon (1986, pp. 29, 34): How shall we describe this range of possibilities, and the translations that occur between them? In order to answer this question, we introduce the notion of actor-network. This concept allows us to describe the dynamics and internal structure of actor-worlds.... The notion of actor-network is developed in order to handle these questions. This notion makes it possible to abandon the constricting framework of sociological analysis with its pre-established social categories and its rigid social/natural divide. [ANT, aka “the sociology of translation”]
- iii. Callon, Law & Rip (1986, p. xvi): entities may be seen as forming a network of simplified points whose simplicity is maintained by virtue of the fact that they are juxtaposed with others. The actor who speaks or acts with the support of these others also forms a part of the network. Hence the term actor-network, for the actor is both the network and a point therein.

- iv. (pp. 32-33): The solidity of the whole results from an architecture in which every point is at the intersection of two networks: one that it simplifies and another which simplifies it. It can be translated into other actor-worlds. For example, the VEL can be linked to the TOV (high-speed train) or the Airbus, thus forming a part of a new French transport policy. Although simplified into a point and displaced in this manner, it is still composed of associated entities. While these entities are susceptible to being moulded or shaped, they in turn may transform the actor-world of which they form a part. It thus deserves to be called an actor-network. However, it is distinguished from a simple network because its elements are both heterogeneous and are mutually defined in the course of their association. Entities may disappear in order to permit the networks that they simplify to expand and surface.
 - 1. This capacity of self-definition and self-transformation is underlined by the fact that the two words 'actor' and 'network' are linked together in a single term. However, an actor-network is distinguished from a simple actor by its texture or structure which is an arrangement of constituent elements that has been translated. Remove all that the VEL translates and it becomes an entity without strength, society or future and it can no longer function. The actor is an association of heterogeneous elements each of which associates its own elements.
 - 2. To summarise, the terms actor-world and actor-network draw attention to two different aspects of the same phenomenon. The term actor-world emphasises the way in which these worlds, built around the entities that create them, are both unified and self-sufficient. The term actor-network emphasises that they have a structure, and that this structure is susceptible to change. Accordingly, in later chapters the two are used interchangeably.
- d. *Science in Action* (Latour, 1987): Note that in *Science in Action*, Latour does not refer to “actor-networks” or “actor-network theory” at all]
 - i. Famously, Latour concludes that “No one has ever observed a fact, a theory or a machine that could survive outside of the networks that gave birth to them” (p. 248).
- e. Law and Callon (1988) begin their “Network Analysis of Technological Change” by asserting: “There is an old rule of sociological method, unfortunately more honored in the breach than the observance, that if we want to understand social life then we need to follow the actors wherever they may lead” (p. 284).
 - i. (p. 285): In what follows we use the notion of *network* to talk about the interconnected character of the social and technical. We use this notion in a way that differs quite fundamentally from standard usage in sociology. Thus we

are not primarily concerned with mapping interactions between individuals. Rather, in conformity with the methodological commitment to follow the actors no matter how they act, we are concerned to map the way in which they *define and distribute roles, and mobilize or invent others to play these roles*. Such roles may be social, political, technical, or bureaucratic in character; the objects that are mobilized to fill them are also heterogeneous and may take the form of people, organizations, machines, or scientific findings. A network metaphor is thus a way of underlining the simultaneously social and technical character of technological innovation. It is a metaphor for the interconnected heterogeneity that underlies sociotechnical engineering.

f. But, is it really Actor-Network Analysis (ANA) that we are doing rather than Actor-Network Theory (ANT)? ANT would just as well be A-NA...

- i. Martin & Scott (1992, p. 487): For our comparison, we have chosen to use the actor-network approach. Our case study is contemporary and allows us access to actors in a way impossible for historical cases, an added dimension that is especially relevant for an actor-network analysis.
- ii. Singleton, V. (1993) *Science, women and ambivalence: An actor network analysis of the cervical screening programme*. Unpublished PhD thesis, Lancaster University.
- iii. Singleton (1993, p. 228): This paper aims to provide a modest elaboration of the actor-network approach — specifically in relation to some of the issues that arise when 'indeterminacy', ambivalence and multiplicity are injected into the actor-network analysis.
- iv. Mol & Law (1994, pp. 652-653): Perhaps there are two ways of looking at this. One is to stay with the network and explore how it struggles to maintain the identity of its elements and the links between them, and then to note that there are other networks out there folding the planes of the This is the course generally adopted by actor network analysis. And it is a fecund course.

g. Who put the “theory” in actor-network theory? (*théorie de l'acteur-réseau*)

- i. Mol (2010, pp. 253-254): “At some point theory was added...”
- ii. “Radder, Will There Be Room for Normative Inputs in the Study of Science and Technology in the 1990s?” (1988): In a systematic sense, my hypothesis is that the (mainly justified) criticism of the distinctions between the cognitive and the social or the internal and the external has led to an (unjustified) neglect of normative problems or, worse, to the view that normative questions or approaches of science and technology are meaningless and superfluous. This hypothesis will be supported by means of a discussion of two theoretical views, namely, the relativists social constructivism and the Callon-Latour actor-network theory.

- iii. Shapin, "Following Scientists Around" (1988): The remainder of Latour's book uses actor-network theory to reconceptualize a series of problems usually assigned to the domains of macro- sociology, anthropology and longue duree historiography.
 - iv. Shrum, "The Labyrinth of Science" (1988, pp. 399): The job of the sociologist? To map the strength, the patterns, and the outcomes of the network of associations. But the controversy that will be decisively relevant to this "actor-network" approach concerns the kinds of elements in the network. Latour, along with other members of the Paris group, argues that the power of science comes from the "collective action of human and nonhuman actors tied together
 - v. (p. 402): More important, the actor-network theory avowedly incorporates human actors, but they are not considered in co-word analysis. Finally, while information in a body of texts is aggregated, the theory is fundamentally ego centered, based on the idea of the fact builder as entrepreneur.
- h. Haraway (1990, p. 9): I'm most influenced by Bruno Latour's actor-network theory which argues that in a sociological account of science all sorts of things are actors, only some of which are human language-bearing actors, and that you have to include, as sociological actors, all kinds of heterogeneous entities. I'm aware that it's a risky business, but this imperative helps to break down the notion that only the language-bearing actors have a kind of agency. Perhaps only these organized by language are subjects, but agents are more heterogeneous. Not all the actors have language. And so that presents a contradiction in terms because our notions of agency, action and subjectivity are all about language. So you're faced with the contradictory project of finding the metaphors that allow you to imagine a knowledge situation that does not set up an active/passive split, an Aristotelian split of the world as the ground for the construction of the agent; nor an essentially Platonist resolution of that, through one or another essentialist move. One has to look for a system of figures to describe an encounter in knowledge that refuses the active/passive binary which is overwhelmingly the discursive tradition that Western folks have inherited. So you go for metaphors like the coyote, or trickster figure.
- i. "Notes on the Theory of the Actor-Network," Law (1992, p. 381): networks are composed not only of people, but also of machines, animals, texts, money, architectures – any material that you care to mention. So the argument is that the stuff of the social isn't simply human. It is all these other materials too. Indeed, the argument is that we wouldn't have a society at all if it weren't for the heterogeneity of the networks of the social. So in this view the task of sociology is to characterise these networks in their heterogeneity, and explore how it is that they come to be patterned to generate effects like organizations, inequality and power.
 - j. "Socio-technical Graphs," Latour, 1992, p. 33): Alternative narratives have been developed under the heading 'actor-network theory' that

stress the heterogeneity and variability of associations of human and nonhumans.

- k. “Reply to Carlson and Gorman,” (Latour, 1992, p. 92): This search for 'quali-quantitative' tools that could reconcile the detailed case studies of scientific practice with the more traditional goals of history, sociology, science policy and economics is the basis of my agreement with Carlson and Gorman, and is at the heart of the so-called 'actor-network' theory.
- l. “After the Individual in Society: Lessons on collectivity from science, technology and society,” Callon & Law (1997, p. 3): People are networks. Devices are networks.... And we've said that entities are networks, or network effects.

4. But ANT is not a theory... but “nobody seemed to notice”

- a. Latour (1996, p. 374): In itself ANT is not a theory of action, no more than cartography is a theory on the shape of coast lines and deep sea ridges; it just qualifies what the observer should suppose in order for the coast lines to be recorded in their fine fractal patterns.
- b. Callon (1999, p. 194): At the start of this paper I was ready not only to recall Actor-Network Theory, but possibly to change the model and to launch a new range. In concluding it I am more optimistic. In short, it has passed one of the most demanding tests: that of the market. And if it has passed it is because ANT is not a theory.
- c. Latour (1999, p. 19): As Mike Lynch said some time ago, ANT should really be called 'actant-rhizome ontology'. But who would have cared for such a horrible mouthful of words—not to mention the acronym 'ARO'? Yet, Lynch has a point. If it is a theory, of what it is a theory? It was never a theory of what the social is made of, contrary to the reading of many sociologists who believed it was one more school trying to explain the behaviour of social actors.
- d. Law (2009, pp. 141-142): Second, the actor network approach is not a theory. Theories usually try to explain why something happens, but actor network theory is descriptive rather than foundational in explanatory terms, which means that it is a disappointment for those seeking strong accounts. Instead it tells stories about "how" relations assemble or don't. As a form, one of several, of material semiotics, it is better understood as a toolkit for telling interesting stories about, and interfering in, those relations.
- e. Mol (2010, p. 254): But authorship is not ownership: despite the clarity of Callon's warning that “ANT is not a theory”, nobody seemed to notice. Nor did anyone listen to Bruno Latour who up to the late Nineties had rarely used the term when he wrote: “there are four things that do not work with actor-network theory: the word actor, the word network, the word theory and the hyphen!

ii. Recalling ANT, ca, mid to late 1990s

“Actor Network and After” Workshop, Keele University, July 1997: “On Recalling ANT,” Latour (1997/1999): There are four things that do not work with actor-network theory; the word actor, the word network, the word theory and the hyphen! Four nails in the coffin.

1. The first nail in the coffin is I guess the word 'network' as John as already mentioned. This is the great danger of using a technical metaphor slightly ahead of everyone's common use. Now with the Web everyone believes they

understand what a network is. 20 years ago there was still some freshness in the term.

What is the difference between the older and the new usage? Network at the time clearly meant a series of transformations—translations, transductions—; now, on the contrary, it clearly means a transport **without** deformation, an instantaneous, unmediated access to every piece of information. That is exactly the opposite of what we meant. The double click has killed the last bit of critical edge left in the notion of network. I don't think we should use it anymore.

2. The second nail in the coffin is the word actor in its hyphenated connection with the notion of net. From day one, I objected to the hyphen because inevitably it would remind sociologists of the agency/structure cliché, or 'pont aux ânes' [tool to hold the horse's mouth open] as we say in French.
3. The third nail in the coffin is the word theory. As Mike Lynch said sometimes ago, ANT should really be called 'actant-rhizome ontology' but who would have cared for such a horrible mouthful of words, not to mention the acronym ARO? Yet, he has a point. If it is a theory, it is a theory of what?
4. Yes, I think there is life after ANT. Once we will have strongly pushed a stake into the heart of the creature safely buried in its coffin— thus abandoning what is so wrong with ANT, that is 'actor', 'network', 'theory' without forgetting the hyphen!— some other creature will emerge, light and beautiful, our future collective achievement.

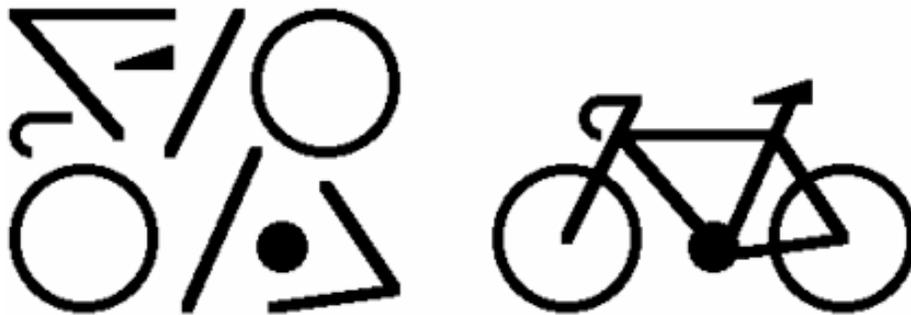


iii. Reaffirming ANT, mid 2000s to present

1. *Reassembling the Social*, Latour (2005, p. 9): To clarify, I will call the first approach 'sociology of the social' and the second 'sociology of associations' (I wish I could use 'associology'). I know this is very unfair to the many nuances of the social sciences I have thus lumped together, but this is acceptable for an introduction which has to be very precise on the unfamiliar arguments it chooses to describe as it sketches the well-known terrain. I may be forgiven for this roughness because there exist many excellent introductions for the sociology of the social but none, to my knowledge, for this small subfield of social theory that has been called—by the way, what is it to be called? Alas, the historical name is 'actor-network-theory', a name that is so awkward, so confusing, so meaningless that it deserves to be kept. If the author, for instance, of a travel guide is free to propose new comments on the land he has chosen to present, he is certainly not free to change its most common name since the easiest signpost is the best—after all, the origin of the word 'America' is even more awkward. I was ready to drop this label for more elaborate ones like 'sociology of translation', 'actant-rhizome

ontology', 'sociology of innovation', and so on, until someone pointed out to me that the acronym A.N.T. was perfectly fit for a blind, myopic, workaholic, trail-sniffing, and collective traveler. An ant writing for other ants, this fits my project very well!

2. I have to apologize for taking the exact opposite position here as the one taken in Bruno Latour (1999c), 'On Recalling ANT'. Whereas at the time I criticized all the elements of his horrendous expression, including the hyphen, I will now defend all of them, including the hyphen!
3. Mol (2010, pp. 265-266): ANT is not a "theory", or, if it is, then a "theory" does not necessarily offer a coherent framework, but may as well be an adaptable, open repository. A list of terms. A set of sensitivities. The strength of ANT, then, is not that it is solid, but rather that it is adaptable. It has assembled a rich array of explorative and experimental ways of attuning to the world. The terms and texts that circulate in ANT are coordination devices. They move topics and concerns from one context to another. They translate and betray what they help to analyse. They sharpen the sensitivity of their readers, attuning them/us to what is going on and to what changes, here, there, elsewhere. In one way or another they also intervene, not from a place of overview, but rather in a doctoring mode. They care, they tinker. They shift and add perspectives.



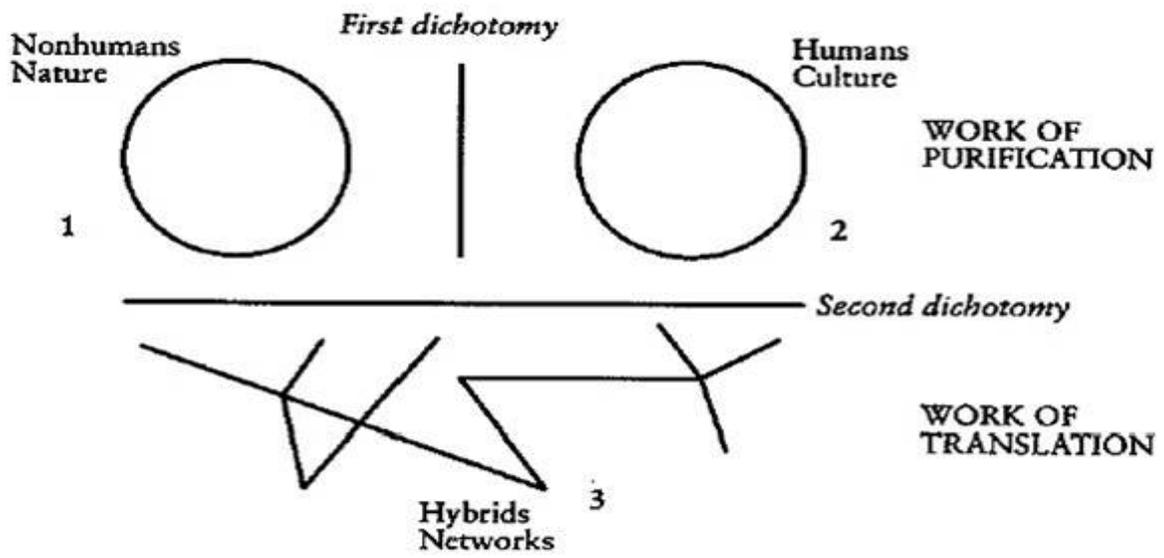


Figure 1.1 Purification and translation

