



Methods of Analysis
Actor-Network Analysis

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If what is to be assembled is not first opened up, de-fragmented, and inspected, it cannot be reassembled again. (Latour, 2005, p. 250)

The perception of patterns and wholes does not necessarily mean that we perceive and experience networks and systems. Ontologically, in evolution and human development, “the ability to conceive and perceive [networks and] systems is not a trivial accomplishment” (Thompson, 2016, p. 114). Gestalt psychologists have long held that “various factors aid or hinder the perception of wholes” and a challenge is exploring these factors (Helson, 1925, p. 357). Networks and systems are configurations requiring specific perceptual senses of pattern recognition. Some networks and systems are amorphous and ill-structured in the aggregate while others are imperceptible. How do experiences of imperceptible and perceptible networks and systems differ? We are told that “networks are everywhere” and “systems are everywhere” and at the same time that “networks are systems” and “systems are networks.” Are differences between networks and systems imperceptible? In which case, we might as well conflate “actor-network theory” (ANT) with “actor-pattern theory” (APT) and “actor-system theory” (AST).

Dating to the mid 1980s, ANT relies on actor-network analysis (A-NA), which derives primarily from network analysis and systems analysis. A-NA draws only peripherally from actor analysis, which economics typically limits to “rational actors.” Network analysis, dating to sociometry in the 1940s, “asks questions about who is linked to whom, the content of the linkages, the pattern they form, the relation between the pattern and behaviour, and the relation between the pattern and other societal factors” (Boissevain, 1979, p. 392). Actor analysis, dating to the 1950s, “helps to identify the actors that should be involved and sheds light on possible roles of different actors, as well as some of the opportunities and risks associated with involving these actors” (Hermans, 2008, p. 3). Network analysis traditionally separates social networks (e.g., friendships, kinships, affinity networks) from technological networks (e.g., communication networks). Analysts such as Hughes (1986) converged the two, noting that science, technology, and society, are woven into a “seamless web” (i.e., sociotechnical networks).

Therein, a premise of A-NA is that things we label culture, nature, society, science, technology, etc. are effects or products of actors and networks rather than sources. Similarly, A-NA asks how are facts and artifacts made, composed, and given? In A-NA, nonhuman agents, actants, or actors play roles as important as humans (irrational, nonrational, rational, etc.). Moreover, actors, heterogeneous as they are, can be networks while networks become actors. “Hence the term actor-network, for the actor is both the network and a point therein” (Callon, Law, & Rip, 1986, p. xvi). As Latour observes (1990/1996), actors have a “networky” character (p. 373).

ANT is renowned for unique definitions and theorizations of actors and networks. An actor, Latour (1990/1996) clarifies, requires “a semiotic definition— an actant— that is, something that acts or to which activity is granted by others. It implies *no* special motivation of *human individual actors*, nor of humans in general” (p. 373). “Instead of starting with entities that are

already components of the world,” Latour (1999) notes, A-NA “focuses on the complex and controversial nature of what it is for an actor to come into existence” (p. 303). “An actor is any entity that modifies another entity... of actors it can only be said that they act; their competence is deduced from their performances” (Latour, 2004, p. 237). Actors, Latour (2004) continues, “are defined above all as obstacles, scandals, as what suspends mastery, as what gets in the way of domination, as what interrupts the closure and the composition of the collective. To put it crudely,” he concludes, “human and nonhuman actors appear first of all as troublemakers” (p. 81). Latour (1990/1996) asserts that “a network is not a thing, but the recorded movement of a thing” but at the same time acknowledges that actors somehow experience networks. “We cannot say that what moves inside networks are pieces of information, genes, cars, bytes, salutations, words, forces, opinions, claims, bodies, energy etc.,” he emphasizes (p. 378).

Indeed, a purpose of A-NA is “to reconstruct nets before there is any distinction between what circulates inside and what keeps them on track, so to speak, from the outside” (Latour, 1990/1996, p. 378). Stated more directly, the purpose is to follow and identify “the entities that compose a network; those differential forces that make up, stabilize, and move between strata, subtending further elements in new encounters” (Hird, 2013, p. 109). Law and Callon (1988) begin their A-NA by qualifying this purpose:

There is an old rule of sociological method... that if we want to understand social life then we need to follow the actors wherever they may lead us. We should, or so this dictum suggests, avoid imposing our own views about what is right or wrong, or true and false. We should especially avoid assuming that those we study are less rational or have a weaker grasp on reality than we ourselves. (p. 284)

A-NA “is not about *traced* networks, but about a *network-tracing*” method, insists Latour (1990/1996, p. 378). It is a method for following actors and trails or traces they make, including controversies. However, “there is not a net and an actor laying down the net, but there is an actor whose definition of the world outlines, traces, delineates, describes, files, lists, records, marks or tags a trajectory that is called a network” (p. 378). A-NA is “a *method* to describe the deployment of associations” (p. 374) or “which actor can be connected with which other actor” (Latour, 1999, p. 304). The importance of this is reflected in Latour’s appeal that A-NA is, in other words, the “sociology of associations” (Latour, 1987; 2005, p. 9; Pinch, 1987, p. 485).

Critics tend to reduce a strength of A-NA— description— to a weakness. Latour (1990/1996) sums up the criticism: “merely deploying shapes of associations might be a worthwhile descriptive task but does not offer any explanation” (p. 375). “If a description remains in need of an explanation,” Latour (2005) responds, “it means that it is a bad description” (p. 137). He advises A-N analysts to dismiss the criticism “that by sticking to description there may be something missing, since we have not ‘added to it’ something else that is often call[ed] an ‘explanation’” (p. 137). To prevent a fatal leap or *salto mortale* from data to explanation or network to framework, Latour’s (2005) rule of thumb is: “No trace left, thus no information, thus no description, then no talk. *Don’t fill it in*” (p. 150). Interpretation in A-NA demands much less paraphrasing what actors say than reticulating what actors do. In many ways, including skepticism of explanation, interpretation, and synthesis, A-NA is analysis extraordinaire.

1. Four questions are herein begged: What is an Actor? What is a Network? What is an Actor-Network? *and* What is Analysis?
 - a. Actor
 1. Callon & Latour (“Unscrewing the Big Leviathan,” 1981, p. 286): What is an 'actor'? Any element which bends space around itself, makes other elements dependent upon itself and translates the will into a language of its own. An actor makes changes in the set of elements and concepts habitually used to describe the social and the natural worlds. By stating what belongs to the past, and of 'what the future consists, by defining what comes before and what comes after, by building up balance sheets, by drawing up chronologies, it imposes its own space and time. It defines space and its organization, sizes and their measures, values and standards, the stakes and rules of the game—the very existence of the game itself. Or else it allows another, more powerful than itself, to lay them down.
 2. Latour (1996, p. 374): First, the granting of humanity to an individual actor, or the granting of collectivity, or the granting of anonymity, of a zoomorphic appearance, of amorphousness, of materiality, requires paying the same semiotic price. The effects will be different, the genres will be different, but not the work of attributing, imputing, distributing action, competences, performances and relations. Secondly, actors are not conceived as fixed entities but as flows, as circulating objects undergoing trials, and their stability, continuity, isotopy has to be obtained by other actions and other trials. Finally, what is kept from semiotics is the crucial practice to grant texts and discourses the ability to define also their context, their authors— in the text —, their readers —in fabula — and even their own demarcation and metalanguage. All the problems of the analyst are shifted to the "text itself" without ever being allowed to escape into the context (Greimas 1976).
Down with interpretation! Down with the context!
 3. Latour (1996, p. 374): When it says that actors may be human or unhuman, that they are infinitely pliable, heterogeneous, that they are free associationists, know no differences of scale, that there is no inertia, no order, that they build their own temporality, this does not qualify any real observed actor, but is the necessary condition for the observation and the recording of actors to be possible. Instead of constantly predicting how an actor should behave and which associations are allowed a priori, ANT makes no assumption at all, and in order to remain uncommitted it needs to set its instrument by insisting on infinite pliability and absolute freedom.
 - b. Network
 - i. Latour (1990/1996, p. 378): a network is not a thing, but the recorded movement of a thing.

- ii. Latour (2005, p. 131): Network is a concept, not a thing out there. It is a tool to help describe something, not what is being described.
- iii. Latour is duck-like in these assertions, appearing smooth on top of the water but with feet rapidly back-peddalling below. Eventually, he comes to terms with all the problems of denying networks and concepts thingness. Not the least of which is the problem articulated by realists and nominalists. Indeed, “to say that it’s an actor-network is to say that it’s specific and that the principles of its expansion are rendered visible and the price for its deployment fully paid” (Latour, 2005, p. 130).
- iv.
- c. Actor-Network
 - i. 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”]
 - ii. 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.
 - iii. Latour (1988, pp. 179-180): The first part (the actor) reveals the narrow space in which all of the grandiose ingredients of the world begin to be hatched; the second part (the network) may explain through which vehicles, which traces, which trails, which types of information, the world is being brought inside those places and then, after having been transformed there, are being pumped back out of its narrow walls.
- d. Analysis
 - i. Latour (2005, p. 86): That this lesson is easy to forget is shown dramatically by the transatlantic destiny of Michel Foucault. No one was more precise in his analytical decomposition of the tiny ingredients from which power is made and no one was more critical of social explanations. And yet, as soon as Foucault was translated, he was immediately turned into the one who had ‘revealed’ power relations behind every innocuous activity: madness, natural history, sex, administration, etc. This proves again with what energy the notion of social explanation should be fought: even the genius of Foucault could not prevent such a total inversion.
 - 1. (p. 136): If the social circulates and is visible only when it shines through the concatenations of mediators, then this is what has to be replicated, cultivated, elicited, and expressed by our textual accounts. The task is to *deploy* actors as networks of mediations—

hence the hyphen in the composite word ‘actor-network’. Deployment is not the same as ‘mere description’, nor is it the same as ‘unveiling’, ‘behind’ the actors’ backs, the ‘social forces at work’.

2. (p. 221): This is why we have to make sure that every entity has been reshuffled, redistributed, unraveled, and ‘de-socialized’ so that the task of gathering them again can be made in earnest.
 3. (p. 250): But no matter how respectable these reasons may appear, they should not suspend the labor of deploying and collecting the associations. If what is to be assembled is not first opened up, de-fragmented, and inspected, it cannot be reassembled again.
 4. (p. 252): If there is no way to inspect and decompose the contents of social forces, if they remain unexplained or overpowering, then there is not much that can be done.
 5. (p. 259): What ANT has tried to do is make itself sensitive again to the sheer difficulty of assembling collectives made of so many new members once nature and society have been simultaneously put aside.
 6. (pp. 128-131): 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....
- ii. Levi (2008, p. 811): The aim of the analysis is not to uncover hidden power relations, nor is it to discover the underlying logic of the field. Rather, the goal is to document which of the indefinite number of potential actants did in fact act? that is, did or did not successfully contribute to shaping the network under study by recruiting or borrowing or riding on the coattails of other actors (actions that do not require human agency...).