

# The uncodings of ANT: Mobilities of digital data

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## Abstract

One of the basic tenets of Actor Network Theory (ANT) is to “follow the actors”. However, coded materialities (the digital in all its forms, including software, devices, networks, artefacts, and algorithms) are notoriously fickle. Digital things are often described as unbounded, evasive, distributed, and constantly mutating (Kallinikos, Aaltonen & Marton, 2010). Indeed, the web, as portrayed by Czernski (2012), seems to simply exist as *flow*. So how do networked learning researchers reckon with these mobilities and multiplicities? As a form of posthumanist theorizing, ANT-inspired researchers attend to how the assemblings of “thingly gatherings” co-constitute enactments of everyday practices with, in, around, and through human actors. Therefore, ANT seems to offer an ontological questioning and framing that can engage with the fluidity of the digital. In this short paper (and Pecha Kucha presentation), I call on ANT to explore how the digital interposes data within the research process—freezing, thawing, excluding, including—beckoning researchers to attend to the sociality of data. The discussion that follows the presentation will draw on real-time examples from the other papers in this symposium to explore the mobilities of digital data. In moving to a posthuman framing, *data*—a blackboxed materiality of research projects—becomes much more complex. A sociomaterial reading of data suggests it is a relational effect: *becoming* in a particular moment because of juxtapositions of multiple networks. Such a conceptualization of data raises several questions. First, how does one theorize the role of the digital in the production of social data and the research process? Second, the encoding of data has amplified its mobility and performativity: it is distributed, often public, fragmented, and entangled in multiple recursive circulations. It takes on new forms and energies. Tensions become apparent, for example as dynamic digital data, at home in the wilderness of the web, is translated to the archived (or frozen) data that appears in screen captures or pdf journal articles. Here, the mobility and fluidity of data (the state of always becoming and creating ongoing movements in understanding) wrestles with practices of solidifying data (freezing or tethering: settling down and settling into a particular locality). This tension provides one entry point for examining the mobilities and socialities of data.

**Keywords:** Actor Network Theory, digital data, research methodology, social media

One of the basic tenets of Actor Network Theory (ANT) is to “follow the actors”. However, coded materialities (the digital in all its forms, including software, devices, networks, artefacts, and algorithms) are notoriously fickle. Digital things are often described as unbounded, evasive, distributed, and constantly mutating (Kallinikos, Aaltonen & Marton, 2010). Indeed, the web, as portrayed by Czernski (2012), seems to simply exist as *flow*—some sort of indissoluble weaving of human-technology actors:

The Web is a process, happening continuously and continuously transforming before our eyes; with us and through us. Technologies appear and then dissolve in the peripheries, websites are built, they bloom and then pass away, but the Web continues, because we are the Web. (para. 13)

How do “posthumanist” researchers examining networked learning reckon with these digitally imbued mobilities and multiplicities? Does ANT offer the theoretical and methodological sensitivities that might be helpful to researchers doing this work? ANT can be described as a form of posthumanist theorizing. A loosely associated set of perspectives, posthumanism reconceptualizes the human as inseparable from the objects and things also of this world and not as an autonomous sovereign. With this significant posthuman turn, ANT-inspired researchers attend to how the assemblings of “thingly gatherings” co-constitute enactments of everyday practices with, in, around, and through human actors. It is through this sociomaterial turn that ANT does offer an ontological questioning and framing that can engage with the fluidity of the digital. Through a counterpointing of ANT and phenomenology, Cathy Adams and I have developed heuristics for the “interviewing” thingly gatherings implicated in the research process as participants and/or co-researchers (see Adams & Thompson, 2012; Thompson & Adams, in-press). In this paper (which draws and builds on

Thompson & Adams, in-press) I focus on the sociality of data, particularly the *encoded materialities* of data, and the questions this poses for researchers.

In moving to a posthuman framing, *data* – a blackboxed materiality of research projects – becomes much more complex. In attempting to gather data, understand it, and interpret it, data is necessarily lashed together with many other things, most especially encoding materialities. A sociomaterial reading of data opens up questions of what it is, suggesting that data is not a thing *per se* but rather a relational effect: *becoming* in a particular moment because of juxtapositions of multiple networks. In a critique of ANT, Ingold (2012) argues for less focus on the “objectness” of things and more attention to the “material flows and formative processes wherein they come into being” (p. 431); “co-responsive movement of occurrent things along their manifold lines of becoming” (p. 437). And so data *becomes*. It is a continual re-enactment of social and material relations. Although data can be frozen at strategic moments throughout the research process—in order to expedite its movement from one point to the next or from one space to another—it is often enacted differently at each these points. I will explore this point further shortly when considering what happens as data shuttles through space and time, alternating between such freezing and thawing.

This conceptualization of data raises several questions. First, as Michael (2004) asks: “How might we go about theorizing the role of nonhumans (technologies, animals, etc.), and their associations with humans, in the production of social data?” (p. 5) Coded materialities increasingly interpose data within the research process. Therefore, at times, there is a blurring between the production of digital data and how researchers come to understand the becoming of data through practices of gathering, analyzing, and reporting. Ruppert, Law, and Savage (2013) observe that “digital devices and the data they generate are both the *material* of social lives and form part of many of the apparatuses for *knowing* those lives” (p. 24).

Second, the encoding of data has amplified its mobility, performativity, and generativity: it is distributed, often public, fragmented, and entangled in multiple recursive circulations. Consider the energies of twitter streams and hashtags, tracings of online consumption, digital footprints, participant generated videos and photos, updates on Facebook, online ratings and reviews, wiki entries, blog postings, comments on comments, text messages, mashups of different information streams, crowdsourcing, and real time aggregation or visualizations of archived data. Such data is indeed “lively” (Savage, 2013) and is assuming new forms. Beer and Burrows (2013) draw attention to *by-product data*: “data generated as a by-product of new forms of popular cultural engagement” (p. 49). They explain that such data is generated through practices of archiving, accumulating information in and through profiles, the classifying and filtering work of metadata, and even through online play as people “have fun and find and consume stuff online” (p. 51). By-product data is also generated through linkages that form when people and things connect as a result of sharing preferences, more algorithmic recommendation processes, or data mining and harvesting (Beer & Burrows, 2013, p. 50).

It seems that not only is digital data taking on new forms and energies, the digital and its encodings are co-constituents in the research process. Starting from—as Latour (2005) states—the “uncertainties and controversies about who and what is acting when ‘we’ act” (p. 45) creates expansive openings for the researcher considering sociality of data alongside the encoding, decoding, and possible recoding of research practices. For example, consider the way that data both enacts and is enacted within research practices. What happens when dynamic digital data, at home in the wilderness of the web, is translated to the archived (or frozen) data that appears in screen captures or pdf-ed journal articles? There is an ongoing tension between the mobility and fluidity of data (the state of always becoming and creating ongoing movements in understanding) and solidification of data (freezing or tethering: settling down and settling into a particular locality). And so the digital assumes a momentary shape and presence so it might then be shaken into something else in a different set of relations. So that it can open up new meanings, uncertainties, understandings, disruptions. These translations are not a linear process and are implicated in a wide swath of inclusionary and exclusionary boundary making practices.

It seems data can enact *multiple* realities simultaneously. In her exploration of multiple ontologies, Mol (1999) writes about “different versions, different performances, different realities, that co-exist in the present” (p. 79). Different “socialities” around data and its different material performances lead to the enactment of different practices and realities. A few years later, Mol (2002) reinforces that objects (in our case, data) have a complex present in which their identities may differ between sites (p. 43). Such notions highlight the ongoing work that is required to toggle between the mobility and solidification of data: work that enlists many actors and can be fraught with contradictions and uncertainties.

In this sense, data could be considered both an immutable and mutable mobile. Latour (1990) describes an immutable mobile as an object that maintains its form thereby fixing ideas and practices in place so that they can circulate and mobilise other networks. This describes digital data when frozen. In contrast, Law and Singleton (2005) describe mutable mobiles – fluid objects – as defined by a set of relations that gradually shifts rather than holding itself rigid. It is possible that at times, data may even be what Law and Singleton term *fire objects*: messy objects that jump and are discontinuous; different and yet partially connected. Objects that flicker in and out of presence and absence. Multiplicities that co-exist. The notion of data as a fire object is amplified when we consider digital data. Because of its liveliness it is not necessarily confined to one space or time. It can be juxtaposed with other things in limitless ways, shifting and adapting as it is entangled in other networks.

My intention with this paper is to invite conversation about the sociality of digital data that is abundant in networked learning research projects and exemplified by the rich and diverse papers in this symposium. Beer and Burrows (2013) argue that “we know little of the affect of the social life of data” and draw attention to how “the use of this new social data needs us first to understand and account for the manner in which that data is accumulated and the way in which the data itself is integrated back into everyday practices” (p. 68); everyday practices which include research practices. And so this paper is emergent: an intermingling of the text provided here, translated into ideas presented through a Pecha Kucha, and translated once again as an array of practices in, through, and with digital data are shared by all the participants who participate during this symposium. In the dialogue which unfolds, ANT can be called on to help tinker in these discussions, as Mol (2010) suggests, by helping to “draw contrasts, articulate silent layers, turn questions upside down, focus on the unexpected, add to one’s sensitivities, propose new terms, and shift stories from one context to another” (p. 262). In so doing, ANT provides both theoretical and methodological sensitivities to wade into the (un/re)codings and mobilities of digital data.

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