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Locating Media Futures in the Present
Or How to Map Emergent Associations & Expectations

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ABSTRACT

Rather than attempting to predict or even imagine specific media futures, I am concerned with how to locate present associations and expectations that serve to encourage particular futures and discourage others. Drawing on relational and performative theories including actor-network theory and a sociology of expectations, researchers are encouraged to critically examine how we approach our work today, along with our very definitions of—and how we understand relations between—humans, computers, and everyday urban life. The article closes with a set of five possible questions to stimulate reflection and conversation about any futures we seek to describe or explain.

INTRODUCTION

IN CONSIDERING THE TOPIC OF EMERGENT LOCATIVE MEDIA and mediated localities, this short article takes a slightly unusual perspective in order to provoke further thinking around some taken-for-granted aspects of new media research. Beginning with the observation that many theories of urban technological innovation and related visions of locative media maintain a sense of consistency and coherency that is difficult to reconcile with their future-oriented and largely unpredictable qualities, this article seeks to identify a set of theoretical tools and preliminary questions that can help researchers better understand the people, places, practices, and ideas that are currently being mobilized to account for a future that has yet to happen. Put a bit differently, rather than attempting to predict or even imagine specific media futures, this article is concerned with how to locate present associations and expectations that serve to encourage particular futures and discourage others.

Part of the trouble we encounter when trying to understand emergent media technologies stems from the tendency for researchers across a variety of domains to discuss new media technologies as representational objects or artifacts rather than as performative “practices, arrangements and ensembles...which permit certain objects to materialize or solidify and not others” (Mackenzie 2003, 3). As information technologies, both mobile and located, become more pervasive in everyday life, the analytical usefulness of more relational concepts becomes evident, and sociological approaches to association and expectation can provide a means to focus our investigations on more performative and less representational (cf. Thrift 2007) understandings of emergent media and social and spatial practices. The primary benefit of this sort of approach is the possibility of pinpointing precise moments and locations in which we can still intervene and alter the course of events, thereby emphasizing and revitalizing the roles of social, cultural, and political agency in the development and use of new media technologies.

In order to draw out these dynamic relations, this article follows Deleuze and Guattari's (1983, 25–26) approach to mapping:

The map is open, connectable in all its dimensions, and capable of being dismantled; it is reversible, and susceptible to constant modification. It can be torn, reversed, adapted to montages of every kind, taken in hand by an individual, a group or a social formation... Contrary to a tracing, which always returns to the 'same', a map has multiple entrances.

Accordingly, the article asks more questions than it provides answers. It is my hope that readers will find their own entrances and exits from this necessarily partial and incomplete map, and in the process recognize the parts we all play in making particular mediated locations and locative media possible, and others impossible.

A SOCIOLOGY OF TRANSLATION OR ASSOCIATION

Beginning with actor-network theory, or what started as a 'sociology of translation,' Michel Callon (1986) outlines four moments of translation in scientific research that can help us understand how new technologies and media ecologies emerge: 1) problematization, or how ideas and things become indispensable; 2) *interessement*, or how allies are locked into place; 3) enrollment, or how roles are defined and coordinated; and 4) mobilization, or how issues are represented to others. The first 'moment' is a double-movement in which a research problem is identified and, more importantly, associated with particular sets of actors. Rather than being reductive, these problematizations comfortably combine humans and non-humans in complex ways (cf. Latour 1999). However, problematization involves claiming that it is in the interests of all the actors for the research to proceed, and the identities of the actors are defined in ways that make the researchers indispensable. Callon calls these material and semiotic associations “obligatory passage points” and notes that problematization depends on

“movements and detours that must be accepted as well as alliances that must be forged” (Callon 1986, 220). The second ‘moment’ involves both submission to the original plan and refusal to accept the proposed transaction. During periods of *interessement*, actors form and reform identities, orientations, and objectives, and their actions attempt to define and stabilize relationships between actors. These actions and devices can be forceful, seductive, practical, and so on, depending on the situation.

Not all problematizations result in enrollment, but if the *interessement* is successful, then the actors move to define, coordinate, and enroll themselves and each other into particular roles. “To describe enrollment is thus to describe the group of multilateral negotiations, trials of strength, and tricks that accompany the *interessement* and enable them to succeed” (Callon 1986, 222). As one might imagine, these devices and actions are of particular interest as this is how relations or associations change and remain the same. And of course, at stake in these scenarios are relations of power; assemblages of identities and objectives are often competing and contradictory. Negotiations that take place during problematization; *interessement* and enrollment invariably involve more individuals than a given assemblage claims to, and indeed is able to, represent. This question of representation, or who speaks on behalf of whom, is of clear social, political, and ethical concern, and Callon reminds us that this situation also raises the crucial question, “Will the masses follow their representatives?” (Callon 1986, 223). If ‘spokesmen’ (i.e. people, things and ideas) are designated by putting “intermediaries and equivalences” into place, then looking at these things also allows us to see who and what are silenced or denied a place on the playing field.

To reiterate, in this scenario participating humans and non-humans are continually displaced and transformed through performative practices and processes of representation. Continuing negotiations between the representatives seek to mobilize and commit absent or silent actors, and if the mobilization is successful, these relations will be accepted as ‘real’ and sometimes even ‘normal’. This mobilized reality—otherwise known as an actor-network—is “a result of the generalized negotiation about the representativity of the spokesmen. If consensus is achieved, the margins of the maneuver of each entity will then be tightly delimited...But this consensus and the alliances which it implies can be contested at any moment. Translation becomes treason” (Callon 1986, 225). If translation is a process always already involving instability, displacement, and contingent ordering, a sociology of translation might also productively be referred to as a sociology of association (cf. Latour 2005), a point to which I will return shortly. For now, my goal is to continue to draw out a processual understanding of emergent social, spatial, and technological relations, and Mackenzie (2003, 4–5) suggests the concept of transduction as one option: “Transduction provides a way of thinking about technologies processually, that is, as events rather than objects, as contingent the whole way down, rather than covering over or reducing contingency...Much of what is represented as ‘new’ is in fact the capture and containment of the processual mode of

existence in technology.” Applied to mediated locations and locative media, the concept of transduction allows us to shift our focus from networked objects or spaces to diverse procedures or performances in which social, spatial, and technological assemblages or associations take shape.

Mackenzie (2002) suggests that technicity (following Simondon) is a transductive way of understanding technology in terms of flow and movements between abstraction and concreteness, or virtuality and actuality. These and related ontological categories—the virtual, concrete, abstract and probable—have also been explored in terms of intensities and flows by Shields (2003), and the notion of technicity focuses our attention on these fluid relations and a sense of becoming. As Mackenzie further explains, “beyond technical objects, technicity inheres with the relationality of the ensembles or assemblages composed of bodies, institutions, conventions, representations, methods and practices. Read transductively, technical objects evolve over time by articulating diverse realities with each other. Technicity is a transcontextual linkage which can be objectified in context-limited ways, but also exceeds its objectification, stabilization or immutabilization” (Mackenzie 2003, 18). In other words, any given application of context-aware technology may be understood to comprise its contexts of research, development, manufacture, sale, implementation, use, and eventual disposal. Shifting socio-technical arrangements are negotiated in particular space-times, and it becomes impossible to reduce locative media to discrete (or stable) objects of computation, or to singular representations. And so, in order to begin to understand mediated locations and locative media transductively, we must seek out their intimations, or what Van Loon (2002) calls “shadows and resonances,” and begin to trace their flows.

To help us do this, we may return to Latour’s (2005, 108) claim that actor-network theory is unique in science and technology studies in part because of its methodological stance that the social is “to be explained rather than providing the explanation.” Latour’s actor-network theory, or a sociology of associations, is more properly a methodology:

[The] ‘social’ is not some glue that could fix everything including what the other glues cannot fix; it is what is glued together by many other types of connectors...[However] it is possible to remain faithful to the original intuitions of the social sciences by redefining sociology not as the ‘science of the social,’ but as the tracing of associations. (Latour 2005, 5)

Integral to these associations are non-linear movements and changes in trajectory, as well as path-dependencies and obduracies, all of which are particularly difficult to trace during the early stages of a technology’s development without also turning to research on global spaces of complexity (see for example Thrift 1999; Urry 2003). To study mediated locations and locative media at this point in time is still largely a future-oriented activity. That does not mean that they do not yet exist, but rather that they continue to act in the present as imaginings or visions of a “proximate future” (Bell and

Dourish 2007). For our purposes, then, a sociology of translation or associations must also become a sociology of expectations.

A SOCIOLOGY OF EXPECTATION

Just as actor-network theory (Law and Hassard 1999; Latour 2005) has, during the past decade or so, grown in influence both within and beyond science and technology studies, the constitutive, performative, and generative qualities of social expectations have increasingly been recognized as playing important and intriguing roles in technological innovation (Brown et al. 2000; Hedgecoe and Martin 2003; Brown and Michael 2003; Borup et al. 2006). Technosocial expectations are considered to be highly situated in the sense that they occupy particular spatial geographies and demonstrate particular temporal patternings. And yet, as Borup et al. (2006, 293) explain, “expectations play a central role in science and technology not least because they mediate across boundaries between different scales, levels, times and communities.”

A sociology of expectations looks to the affective roles of imagination and desire (i.e. the capacity to be moved) in shaping technological change. Like the complex relations hinted at earlier, expectations are generative in the sense that they:

...guide activities, provide structure and legitimation, attract interest and foster investment. They give definition to roles, clarify duties, offer some shared shape of what to expect and how to prepare for opportunities and risks. Visions drive technical and scientific activity, warranting the production of measurements, calculations, material tests, pilot projects and models... They play a central role in mobilizing resources both at the macro level, for example in national policy through regulation and research patronage, and at the meso-level of sectors and innovation networks, and at the micro-level within engineering and research groups and in the work of the single scientist or engineer. (Borup et al. 2006, 286)

And expectations are performative in the sense that they attract interest from potential allies, define roles, and “build mutually binding obligations and agendas.” As a sociology of translation would also have it, expectations are “central in brokering relationships between different actors and groups” (Borup et al. 2006, 289) and this scenario raises interesting questions about relations between imagination, materiality, and embodiment in technological innovation, as well as reconfigured socio-spatial relations. It also explicitly ties expectations to affect, as affective contagion (or lack thereof) increasingly plays a central role in processes of translation.

While context and location-aware technologies can be seen as historically embedded within complex global assemblages of military, industry, government, and public interests—including a fundamental belief in technological progress—they also currently occupy spaces that hinge on a future yet to happen, or futures that may not ever happen. Borup et al. (2006, 285) claim that “novel technologies and fundamental

changes in scientific principle do not substantively pre-exist themselves, except and only in terms of the imaginings, expectations and visions that have shaped their potential.” Or as Latour rather elegantly explains,

To say something is constructed means that it’s not a mystery that has popped out of nowhere, or that it has a more humble but also more visible and more interesting origin. Usually, the great advantage of visiting construction sites is that they offer an ideal vantage point to witness the connections between humans and non-humans. Once visitors have their feet deep in the mud, they are easily struck by the spectacle of all the participants working hard at the time of their most radical metamorphosis...Even more important, when you are guided to any construction site you are experiencing the troubling and exhilarating feeling that things could be different, or at least they could still fail—a feeling never so deep when faced with the final product, no matter how beautiful or impressive it may be (Latour 2005, 88–89).

All of this reinforces the idea that locative media and mediated locations involve persistent tensions between pasts, presents, and futures that make certain identities and objectives possible or probable, and others impossible or improbable. Expectations can be positive or negative, and especially in the case of technoscience, are often put in terms of utopian or dystopian futures. Expectations in such cases are also associated with the belief that technoscientific progress is both a requirement and a promise, where practitioners, advocates, and adversaries of locative media and related technologies assume certain inevitabilities and feel obligated to deliver the best possible product, service, or alternative solution in response.

To question such media technologies today is to visit a few ruins and a host of construction sites, as well as to follow “future abstractions [and] expectant projections that alter the now” in ways that involve “the future working back on the present” (Borup et al. 2006, 289). As these “wishful enactments of a desired future” are made real, or actualized, through a range of embodied interactions and material objects, “promissory commitments become part of a shared agenda and thus require action” (Borup et al. 2006, 289). In these ways, future-oriented visions of locative media and context-aware computing can be seen to work in the present to shape current relationships and provide particular orientations towards the past, present, and future.

As Brown (2006, 9–10) continues,

There is an emerging moral space developing here where failure to invest now may result in moral recrimination later. Futures and expectations are, by and large, shared attributes that in some circumstances can become embedded in what we might call ‘communities of promise’...Communities of promise are highly complex and multi-authored enterprises. It is rarely ever possible to ascribe responsibility for expectations to one actor rather than another... [D]ifferent participants in a community of promise ‘conspire’ or ‘collaborate’

in the authorship of a future...Agency is also complex across time as well as across present communities of promise. There are no 'first causes' but rather a long and complex prefiguring of expectations through events, practices, statements and promises stretching through time.

As discussed earlier, these prefigurings refer to particular interests invested in the present, or in present potentials: "To enable hope requires the coordination and management of the conduct of individuals and groups so that a particular future may come into being" (Novas 2006, 291). If a particular translation has been successful, certain identities and associations become irreversible or path-dependent. If truth can be loosely tied to materiality and hope to imagination, then expectations can be seen as relational objects that act as 'bids' or tenders on the future (Berkhout 2006). These bids and expectations are understood to be conditional and flexible, integral to the complex material and symbolic transformations that occur in processes of translation and bring about particular associations.

The situatedness of associations should also compel our attention to the situatedness of expectations. As Hayles (2005, 132 & 148) points out with regard to artificial intelligence research paradigms,

Whether or not the predicted future occurs as it has been envisioned, the effect is to shape how 'human being' is understood in the present...[T]he relation between humans and intelligent machines thus acts as a strange attractor, defining the phase space within which narrative pathways may be traced. What becomes difficult to imagine is a description of the human that does not take the intelligent machine as a reference point. [...]

The future echoes through our present so persistently that it is not merely a metaphor to say the future has arrived before it has begun. When we compute the human, the conclusion that the human being cannot be adequately understood without ranging it alongside the intelligent machine has already been built into the very language we use.

Returning to the case of locative media and mediated locations, such a perspective suggests that contemporary expectations around the future have more to do with present social, spatial, and technological concerns than serving as future predictions. Likewise, expectations about mediated locations and locative media shape how we approach research in these areas today, along with our very definitions of—and how we understand relations between—humans, computers, and everyday urban life.

Since this suggests that tomorrow's expectations and today's associations are bound up in rather complex (i.e. non-linear, unpredictable) ways, it may help to recall Gibbons' et al. (1994) concept of "Mode 2" knowledge regimes that depend on a surplus of producers, distributors, and audiences that create more and more heterogeneous and heterarchical knowledge claims. Along with the kind of interdisciplinarity that

historically underpins much research in networked technologies and new media formats enable associations that rely on complex inscription devices (cf. Latour and Woolgar 1986) and other attempts at material and semiotic translation across traditional boundaries. This slippage between professional and other concerns is further complicated by the multiple roles that researchers take in everyday life. This returns us to my earlier claim that a primary means by which all this complexity is managed is through affective relations, or the capacity to affect and be affected by others. Accordingly, expectation and affect must be approached from two interconnected perspectives: one of technological 'becoming' and one of 'hope' for particular technological futures. In the first sense, affect refers less to emotion than to what Massumi (2002) describes as the potential, indeterminant, and emergent, and as Clough (2000, 4) explains, "it is its participation in the virtual that gives affect its autonomy—its escape from the particular thing that embodies it."

INTO THE FUTURE: PRELIMINARY QUESTIONS

Over the past two decades, the ability to imbue physical locations and objects with networked data has emerged not only as a social vision based on consumer capitalism, as well as values of access and connectivity, but also one predicated on substantial infrastructural (i.e. physical, political, and economic) change. What it will take to actualize such futures remains to be seen, although we are already getting glimpses of several possible and partial futures. As these mediated locations and locative media futures continue to unfold and change, I wish to advocate a critical perspective that clearly situates itself in the present while also maintaining a view to the past. In other words, before we go too far in debating which future is the most likely or the most appropriate, I think it may be beneficial to slow down and reflect further on where we are coming from and what we are doing right now.

If the 'new' is indeed the "capture and containment of the processual mode" (Mackenzie 2003, 4–5) then we might begin by asking the following questions:

- How do different theoretical and methodological perspectives stand to reconfigure relations between people, places, and things—yesterday, today, and tomorrow?
- Whose interests are currently served by positioning mediated locations and locative media as 'new,' or the 'next big thing'?
- Who currently has the power to imagine and debate future scenarios, and who is excluded or absent from these activities?
- What are the primary means by which certain players attempt to affect others?
- How does predicting, promising, or envisioning particular futures create present-day alliances and obligations that help to bring about those futures and not others?

Of course, these are not the only questions and perhaps not even the most important ones. But in attempting to answer them, we stand to identify other questions and concerns that might encourage greater reflexivity and accountability within the research community and foster further collaboration with other stakeholders and publics who will undoubtedly be affected by whatever future locative media and mediated locations emerge.

AUTHOR'S NOTE

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