10 Picturing the Public

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In this volume we have seen repeatedly how network technologies enable not only new forms of social and cultural interaction but also new representations of the collectivities and geographies in which those interactions take place. The Internet, especially, has been a flexible medium in which new technologies of representation can emerge, acquire power, and at the limit become "metonymous" with the world they represent—parts taken for the whole. This relatively open vista has created many new opportunities for technologies of representation to show the frequently obscured side of their function: that of enabling and ultimately transforming their objects.

The process is not new: Our basic concepts of association are rooted in different technologies of representation. These concepts privilege different valences of association—face-to-face connections, the relationship to a state or other authority, degrees of separation among a group of peers. The original meaning of the word "social" was coextensive with all types of association. But now, "we tend to limit the social to humans and modern societies, forgetting that the domain of the social is much more extensive than that" (Latour, 2005, p. 6).

This book offers ample evidence of the currency and power of "networks" as a way of thinking about forms of association. My goal in this chapter is to reinsert networks into a longer history of the linked metaphors and technologies that shape our understanding of the "public" and our agency within it, beginning with the early 20th-century debate between Walter Lippmann (1922) and John Dewey (1927) about the constitution of the public and ending with Noortje Marres's description of an "object-oriented public" (Marres, 2005), a critique of the limitations of the network metaphor and a proposal about how they can be overcome. In sketching this larger arc, I hope to illustrate the contingency of the descriptive power of the network especially in our discussions of electronically mediated association. Like older conceptions of association and assembly, it can be displaced as other tropes and technologies provide new leverage on forms of collective action.

In 1922 the journalist and political advisor Walter Lippmann published the now-classic text *Public Opinion,* in which he sought to define public life and the distinctly articulated publics that compose it. In the first chapter, "The World Outside and the Pictures in Our Heads," Lippmann advances the idea that public opinion consists of a union of the set of "pictures" in the minds of individuals. This "big picture," he argues, is the public's opinion about a given issue or event. In turn, "Public Opinion," writ large, is the sum of these

collectively held representations carried into action. It is the manifestation of public life:

Those features of the world outside which have to do with the behavior of other human beings, in so far as that behavior crosses ours, is dependent upon us, or is interesting to us, we call roughly public affairs. The pictures inside the heads of these human beings, the pictures of themselves, of others, of their needs, purposes, and relationship, are their public opinions. Those pictures which are acted upon by groups of people, or by individuals acting in the name of groups, are Public Opinion with capital letters. (Lippmann, 1922, p. 29)

Seen from 2007, one of the striking features of Lippmann's book is its reliance on a narrative analysis of this process, articulated with the techniques of storytelling rather than through statistics and questionnaires. Public Opinion may have been the manifestation of public life, but this object had no technology of representation that distinguished it from other theories and descriptions of public life. Although it proved influential on the emerging field of political science, it vied with other discursive accounts. This approach held sway well into the 1940s: The first volume of the journal *Public Opinion Quarterly,* published in 1937, retains much of Lippmann's discursive tone.

The transformation of public opinion into the object of statistical social science we know today—a science of polling and surveys—owes much to the work of midcentury scholars of media and communication like Paul Lazarsfeld, Harold Lasswell, Kurt Lewin, and Carl Hovland. All were central figures in the postwar development of statistical methodologies in American social science. The success of their project is visible in contemporary volumes of *Public Opinion Quarterly,* which are dominated by numbers, graphs, and mathematical formulas.

This hegemonic history of "administrative" media research is sufficiently well known that I will not rehearse it here (Lazarsfeld, 1941), but I do want to reflect on the meaning of this shift in the dominant technology for representing public opinion. With empirical measures and statistical techniques, public opinion became measurable and deployable in ways that allowed it to achieve legitimacy comparable to other technologies of representation of the public, such as voting. The new technology appropriated, empowered, and ultimately transformed the metaphor.

The science of public opinion provided a new answer to an old problem. Since the 18th century, social theory has struggled with a twofold problem of grounding authority: first, that of specifying a popular (and later national) will

that could legitimate authority; and second, the question of what "technology," in a broad sense, could represent that will. For Rousseau (2002), this technology was a special person—the legislator—who could divine the general will. For later German romantics, national languages became the vehicles of representation, with literature its operative technological form. For American constitutionalists, who integrated Locke's view of society's fall from original unity into conflicting interests, voting and political representation were the technologies through which differences within the larger public could be formally expressed and overcome.

Social science and philosophy have generated a vast number of other metaphorical descriptions of the public, rooted in different and often scientific perspectives on systematicity and relation. These are technologies in the broad sense that they enable different kinds of questions to be asked. An account of these would include the public as:

- **A PHYSICAL SYSTEM OR MASS. This metaphor underwrites work in mass communications and allows one to ask questions like "What is the impact of a given message on an audience?" *Mass* communications research arguably starts with Harold Lasswell's work on propaganda in World War I (Lasswell, 1927).**
- **A THERMODYNAMIC SYSTEM. In the 1940s Robert Merton and Paul Lazarsfeld advanced a program of research in which social structures were seen to be stable or unstable, in equilibrium or disequilibrium, according to group dynamics and the media messages that influence the members of a group. The metaphor of the public as a thermodynamic system engenders questions about the production and breakdown of social order. Thermodynamics, equilibrium, and entropy as tropes all become even more influential with the introduction of information theory (Shannon & Weaver, 1949).**
- **AN ECOLOGY. Earlier in the century Robert Ezra Park and E.W. Burgess (1921) founded a discipline they called "human ecology" to explain how relationships between individuals are governed by a struggle for territory that results in symbiotic relations of unplanned competitive cooperation.**
- **AN ORGANISM. A metaphor articulated by Herbert Spencer (1883–1890) in the middle of the 19th century, with descendents in the work of Marshall McLuhan (1994), who wrote of railways and telephone lines as the nervous system and/or vascular system of society. McLuhan allowed one to see how the public might become a radically different animal with the introduction of new media technologies.**
- **A NETWORK. In his review of contemporary French social science, François Dosse describes how social bonds and the weaving together of subjects and objects is**

currently conceptualized as a set of "sociotechnical networks" (Dosse, 1998, p. 96). Many French social scientists and philosophers have employed this metaphor (e.g., Bruno Latour, Gilles Deleuze, Felix Guarttari). In North American social science, quantitatively oriented sociologists of social network theory (e.g., Harrison White, Stanley Wasserman, Barry Wellman) work with an analogous vocabulary.

Other metaphors in circulation include the public as (ir)rational individual, public as information processor, public as market, public as evolving species, and so forth (see Mattelart & Mattelart, 1998). Our idea of the public is shaped by different configurations of these metaphors, which have varying degrees of currency in contemporary discourse (even if some have fallen out of favor within the social sciences). They remain relatively weak metaphors, however, until they couple with technologies of representation that can extend their reach.

The statistical revolution was the prelude to more sophisticated, computer-mediated forms of modeling and visualization of publics and public opinion. As Paul Edwards (1996) and others have argued, authority over many issues of general public concern (e.g., the state of the environment) has migrated from exclusively human hands into myriad meaning-making technologies—including, especially, information technologies. It is false nostalgia to reject this process. To claim that the will or opinion of the public can be felt in an unmediated, direct fashion is a rhetorical trick—although, for historical reasons, a very common and powerful one. The difficult question for students of media today is, therefore, not "How can public opinion be registered without technological mediation?" but rather, "How can new technologies of representation call into being more democratic publics with richer measures, modes of visualization, and structures of participation?" These technological imperatives can be understood as an effort to design what the philosopher Michel Foucault has called *technologies of the self* (Martin et al., 1988), that is, means for groups to reflect on their discussions, collectively authored "statements," and possible (dis)agreements (i.e., as pictures of public opinion).

According to the *Oxford English Dictionary,* the word "network" is very old. It was employed in the 16th-century translation of the Bible to represent the weaving together of sets of material strands (metal, fabric, leather, etc.). The use of the term as a synonym for a set of interrelated people, by contrast, is a recent invention. The verb "to network," meaning to introduce and be introduced to other people outside of one's immediate social circle, made its first appearance in the 1970s after the deployment of ARPAnet, the precursor to the Internet.

Within social science, networks are arguably an analytical discovery emerging in the late 19th-century work of Gabriel Tarde (see Latour, 2001), or, alternatively, of the 1930s social network research of Jacob Levy Moreno (1953). Regardless of the chosen date of origin, it does not require a historian of social science to note that structural analysis of social networks was largely invisible before the seminal work of Stanley Milgram (1967) and others in the 1960s. As the Internet developed into a highly visible instantiation of the concept, networks become both research objects in themselves and the objects of a new set of research methodologies (network analysis; e.g., Barabási, 2002).

It seems probable that the metaphor of the *public as a network* would not have gone far without the confirmation provided by this dominant social and technological infrastructure. If it was not possible to log on to the network and meet other people by exchanging email, for example, the image of the self as a "node in a network" would seem absurd. Like other hegemonic concepts, social networks are no longer just a metaphor but a metonymy, a substitution of a part (the Internet) for the whole (social relations of all kinds).

The appearance and now near-ubiquity of computer networks does not by itself explain why social scientists and members of the general public are so enthusiastic to equate people with nodes of a network. After all, networks of many kinds have existed for a long time (Mattelart, 2000). For example, by the middle of the 19th century, the telegraph network made it possible to transmit a message from Maine to Texas. But Thoreau (1980) made light of this in his famous comment: "We are in great haste to construct a magnetic telegraph from Maine to Texas; but Maine and Texas, it may be, have nothing important to communicate" (p. 52).

The mere existence of techniques or technologies of networks does not make them compelling objects of personal identification or (inter)national cohesion. Nevertheless, Thoreau's quip short-circuits the potential for a mutually recursive definition of the public and technology. In the words of John Dewey (1927):

Railways, travel and transportation, commerce, the mails, telegraph and telephone, newspapers, create enough similarity of ideas and sentiments . . . for they create interaction and interdependence. . . . Our modern state-unity is due to the consequences of technology employed so as to facilitate the rapid and easy circulation of opinions and information, and so as to generate constant and intricate interaction far beyond the limits of face-to-face communities." (p. 114)

In other words, Maine and Texas might not have had much to say to one another before the construction of a telegraph line connecting them, but the more the connection was used, the more they had to say, until constant contact between the two states forged a new bond between them.

Dewey's point is *not* that "the medium is the message" (McLuhan, 1994); rather, he states that the new connections between people established by modern technology engender an exchange of ideas. These ideas, as matters of public debate and concern, forge and divide coalitions of people into differing publics:

How can a public be organized, we may ask, when literally it does not stay in place? Only deep issues or those which can be made to appear such can find a common denominator among all the shifting and unstable relationships. . . . There are those who lay blame for all of the evils of our lives on steam, electricity and machinery. . . . In reality, the trouble springs rather from the ideas and absence of ideas in connection with which technological factors operate. (Dewey, 1927, pp.140–141)

Dewey's *The Public and its Problems* was a response to Lippmann's writings on the public and public opinion (Dewey, 1927, n. 1, pp. 116–117). In her rereading of this debate, "Issues Spark a Public into Being," Noortje Marres (2005) identifies a common understanding of the constitution of the public in Dewey and Lippmann's work. In Dewey's terms, a public is a form of association distinct from other types of community (e.g., friendships, religious groups, scientific communities):

The characteristic of the public as a state springs from the fact that all modes of associated behavior may have extensive and enduring consequences which involve others beyond those directly engaged in them . . . when a family connection, a church, a trade union, a business corporation, or an educational institution conducts itself so as to affect large numbers outside of itself, those who are affected form a public. (Dewey, 1927, pp. 27 and 28)

According to Dewey, publics are contentious in origin—the products of events in which a nonpublic group oversteps its bounds in ways that affect those outside its membership. Dewey's perspective allows one to account for the transitory, overlapping quality of "public" alignments of interests, but makes it difficult to understand in any precise way what "the public" is. "The public," as a single, unified entity, may, in fact, be just a fiction or *phantom* (Lippmann, 2002) of political maneuvering.

Marres pursues this picture of publics further in joint work with Richard Rogers (e.g., Marres & Rogers, 2005). The authors identify specific issues that

engender the formation of publics on the Internet (e.g., global climate change). These publics are organized into what they call "issue networks": think tanks, scientists, activists, NGOs, and others linked to strategically frame discussion and debate of objects of public concern (Marres & Rogers, 2005, pp. 922–923). They have also developed a software tool (IssueCrawler) that maps and visualizes these relationships in terms of hyperlinks between websites.

Network-based tools—like the IssueCrawler and many other works including my own Conversation Map (see Sack, 2002)—provide powerful representations of the metaphor of the "public as network." But these kinds of technology have limitations. Most important, networks are an adequate means for representing certain kinds of synchronic structural relations, but they provide no representational means to depict diachronic processes, that is, systems that change over time. Using networks it is difficult, if not impossible, to represent an event that might subsequently engender the development of a public motivated to assemble because of the event. The formation, development, and change of a network is outside the representational means of networks because networks are descriptions of structures, not processes. One might supplement this inadequacy by employing other means like content analysis, time series analysis, and so on. But this is the point: These other representational means are not the means of networks. Networks must be supplemented in order to represent change over time.

Marres (2005) has sought to address these representational shortcomings by offering a new metaphor—"object-oriented democratic politics" (p. 208). The new metaphor is an effort to engage not only the subjects of politics (i.e., the people that constitute a public) but also the objects of concern or contention (i.e., the issues that motivate a public's organization (ibid., p. 206)). In "From Realpolitik to Dingpolitik or How to Make Things Public," Bruno Latour (2005) discusses the metaphor's technological foundation:

A few years ago, computer scientists invented the marvelous expression of "object-oriented" software to describe a new way to program their computers. We wish to use this metaphor to ask the question: "What would an object-oriented democracy look like?" . . . It's clear that each object—each issue—generates a different pattern of emotions and disruptions, of disagreements and agreements. . . . Each object gathers around itself a different assembly of relevant parties. Each object triggers new occasions to passionately differ and dispute. Each object may also offer new ways of achieving closure without having to agree on much else. In other words, objects—taken as so many issues—bind all of us in ways that map out a public

space profoundly different from what is usually recognized under the label of "the political." (pp. 14 and 15)

Object-oriented programming was invented more than 40 years ago (Nygaard, 1962) and incorporates a means for describing both structures and processes. The definition of an "object" incorporates a description of its structure and a definition of associated processes (usually called "methods" or "handlers") that might be used to query or change the structure. For example, graphical computer interfaces are usually programmed using object-oriented methods. The interface's structures—its buttons, windows, menus, and their arrangement—are defined as objects and then handlers are added to the objects to define what should happen if, for example, a user pushes a button or clicks the mouse on an item of a menu. "Object-oriented publics" improves upon the network metaphor insofar as it both incorporates a means for describing processes—the dynamics and changes that can occur over time—and a framework for retaining distinctions between opposing entities. It enables us to ask a new set of questions about publics and their actions. Marres's anachronistic employment of a 1960s computer science term to characterize Lippmann and Dewey's ideas of the 1920s suggests the current fascination with networks may simply be one more metaphor in a long line of others. Soon, perhaps, it will be quite dated to imagine oneself as a node in a social network of Friendsters (see boyd, Chapter 8, this volume). Maybe, following the language of computer science, we will soon understand ourselves as "object handlers."

Stranger things have happened. For example, the notion of "open source" was originally a concept known only in technical circles: It describes a way of distributing software so that it can be shared, reused, and modified by subsequent programmers and users (see Weber, 2004). But now, "open source" is a form of art (Cramer, 2000), a national public radio program (http://www.radioopensource.org/), and is being applied to a large range of media for the purposes of articulating a new public space, a so-called "creative commons" (http://creativecommons.org/). In the world of software, object-oriented programming is a methodology that allows for wider sharing and reuse of good ideas. Object-oriented programming and open source are two complementary ideas from computer science. To imagine that we might proceed from thinking of ourselves as nodes in a network to inventing a self-image in the guise of an open source object handler cannot be any more whimsical than the industrual age's imagination that we are but cogs in the wheels of some enormous machine.

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