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Infrastructure

Lisa Parks

The word "infrastructure" surfaced in the early twentieth century as "a collective term for the subordinate parts of an undertaking; substructure, foundation," and first became associated with permanent military installations (Oxford English Dictionary). Since then, the term's meanings have expanded to encompass power grids and telecommunication networks, subways and freeways, sewer systems, and oil pipelines. While critical media studies scholars have investigated "networks" for decades, they have only recently begun to think of "infrastructures" as part of their research field. Work on media infrastructures has explored the material conditions in which broadcast, cable, satellite, Internet, and mobile telephony systems are arranged to distribute audiovisual content to sites around the world. While such systems have historically been referred to as "telecommunication networks," the reconceptualization of them as "media infrastructures" signals a shift toward exploring issues of scale, difference and unevenness, relationality, labor, maintenance and repair, literacy, and affect (Parks and Starosielski 2015). For this reason, research on media infrastructures requires interdisciplinary engagements across fields such as sociology, urban studies, anthropology, history, urban studies, architecture, and science and technology studies.

Studying the systems and material conditions that enable media distribution involves adopting an *infra-structural disposition*. When consuming or critiquing media it is vital to think not only about what media

represent and how they relate to a history of style, genre, or meaning, but also more *elementally* about what they are made of and how they arrived (Parks 2015). For architect Keller Easterling, an infrastructure has a disposition to the extent that it is a "mode of organization" that is "actively *doing something*" (2014, 73). Astutely, she defines "disposition" as "an extra diagnostic tool for assessing undisclosed capacity or political bearing in infrastructure space" (93). Recognizing this, she explains, is to be able to "uncover accidental, covert or stubborn forms of power—political chemistries and temperaments of aggression, submission or violence—hiding in the folds of infrastructure space" (73). In the process of elaborating a philosophy of "elemental media," John Durham Peters describes what he calls "infrastructuralism" as a "fascination for the basic, the boring, the mundane, and all the mischievous work done behind the scenes . . . a doctrine of environments and small differences . . . of things not understood that stand under our worlds" (2015, 33). Then, conjoining media and infrastructure, Peters sets out to boldly expand the conceptual radius of media theory, insisting, "To understand media we need to understand fire, aqueducts, power grids, seeds, sewage systems, DNA, mathematics, sex, music, daydreams and insulation" (2015, 29).

As Peters's provocative inventory implies, the concept of infrastructure has been used to expand the kinds of objects, sites, and practices within the purview of media studies. In the spirit of this expansion, I sketch a continuum for thinking about infrastructure and affect that brings phenomenological and political autonomist approaches into dialogue, marking them as distinct yet equally important and ultimately related to one another. There is a need, on the one hand, for a broader imagining of *infrastructural affects*—experiences, sensations, structures of feeling—generated through people's material encounters with media infrastructures (not just

interfaces but physical sites, installations, hardware), while, on the other hand, there is a need for further critique of the ways affect serves as part of the *base* of media infrastructural operations.

Affect is "a gradient of bodily capacity—a supple incrementalism of ever-modulating force-relations—that rises and falls not only along various rhythms and modalities of encounter but also through the troughs and sieves of sensation and sensibility" (Gregg and Seigworth 2010, 2). Infrastructures become part of such "force-relations" as people's encounters with them in everyday life generate rhythms, moods, and sensations. For many people, the default disposition to infrastructure might be indifference or apathy, but it is also possible that a broad spectrum of infrastructural affects remains unknown, simply because certain kinds of questions have not been asked.

A phenomenology of infrastructure and affect might begin by excavating the various dispositions, feelings, or sensations people experience during encounters with infrastructure sites, facilities, or processes. This critical imaginary might take shape as a continuum that recognizes, on one end, the general tendency of infrastructures to normalize behavior (such that they become relatively invisible and unnoticed), and, on the other, the potential for disruption of that normalization, which can occur during instances of inaccessibility or breakdown. By creating this continuum, it might be possible to build on Wendy Chun's crucial work on networks of control and freedom (2008) and to suggest that an array of infrastructural affects lies in the gray zone between them. The intention of this critical move, then, is not to reduce affect or turn it into a list of discernable emotions, but rather to catalyze further thinking about the ways people perceive and experience infrastructures in everyday life and how these experiences differentially orient people in the world.

Beyond this phenomenological approach, it is also important to consider the relationship between media infrastructures and affective labor, a concept derived from critiques of late capitalism's shift from factory labor to "invisible" or "immaterial" forms of labor involving various social skills, services, and modes of care (Hardt and Negri 2005, 108). As Brian Massumi puts it, "affect is a real condition, an intrinsic variable of the late capitalist system, as infrastructural as a factory" (2002, 45) The case already has been made that network infrastructures like the Internet rely upon the affective or immaterial labor of users to function and sustain themselves over time (Terranova 2004). Media infrastructures' reliance on immaterial labor is a historical and predigital process that dates back at least to the emergence of telegraphy in the mid-nineteenth century. What we have in the current conjuncture is a compounding and intensifying demand for immaterial labor as industrial societies have undergone a shift from only one telecommunication infrastructure—telegraphy—to a postindustrial order in which multiple systems—telephony, radio, television, cable, satellite, Internet, and mobile telephony—cooperate and compete for user time, attention, and energy. Landline telephony has fewer users today than it did one decade ago not because the system no longer technically functions, but because most people simply do not have enough time, attention, and money to use their landlines and their mobile phones. Satellite radio networks shower hundreds of niche signals into continental footprints, but listeners do not have enough time to hear them all.

Such scenarios are suggestive of the compounding affective demands that have become part of media infrastructures' current conditions of operation. The capacity to produce and distribute networked data not only creates what Mark Andrejevic describes as "infoglut"; these conditions, he suggests, turn affect into "an

exploitable resource" that becomes "part of the 'infrastructure'" (2013b, 52). Andrejevic builds upon Daniel Smith's assertion that affects "are not your own, so to speak. They are . . . part of the capitalist infrastructure" (2011, 137). Within such conditions, media infrastructures once thought of as *public utilities* have been reorganized as *utility publics*—that is to say, infrastructures not only deliver utilities to publics but, in the process, reutilize publics as part of the base of their operations.

With multiple competing media infrastructures in the marketplace, it remains to be determined whether there is enough human bandwidth to sustain them all, as well as figuring out what *sustaining them* means. Human time, attention, and energy are not boundless, even if capitalism operates as if they are (Crary 2013; Sharma 2014). One incentive for mobile phone and satellite operators to tap the so-called O3B—the "other three billion" people on the planet without Internet access—is to be able to exploit a more global pool of affective labor. Plans for integrating the developing world into the Internet are also ways to expand digital capitalism's human resources. Within such conditions, formulating analyses of media infrastructures and affect seems more important than ever.

33 Interactivity

Critically understanding interactivity—the way people interact with media of various forms—has been a core concern of media studies since its inception. Long before personal computers and mobile devices arrived in family homes, media and cultural studies sought to make visible the different impact that mass media, including film and television, could have in people's lives. This undertaking is exemplified in Stuart Hall's model of encoding and decoding, which, at its most basic level, argues that media are not passively received, but rather actively decoded and interpreted by every audience member, every recipient (Hall 1973/1980). Hall's model acknowledges that media are produced and consumed within specific contexts and power structures that often promote a dominant reading, a way of interpreting a media text aligned with the producer's intended meaning. Yet it is Hall's argument that an oppositional reading is possible, that audiences may interact differently and take a different meaning from a media text, that is most important. Hall thus argues that all media viewing is an act of interpretation, and the perspective of viewers and the context in which they are viewing will have an impact on how they interact with each and every media text in their lives.

While interactivity at the level of meaning is comparatively difficult to make visible, in early studies of fan culture interactivity is particularly evident. From Henry Jenkins's canonical *Textual Poachers: Television Fans and Participatory Culture* (1992) onward, fan studies