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Rivers, Gatherings, and Infrastructures

Will Straw

This contribution is concerned with the triangular relationship between music, media, and the study of infrastructures. If the chapters collected in this book do not all deal centrally with media (in the conventional sense of that term), they nevertheless share, with recent work in media studies (my own discipline), participation in what has been called an “infrastructural turn.” Infrastructure has emerged over the past decade as one of the two key conceptual categories around which a great many other strands of media analysis have gathered. (The other, to which I shall turn shortly, is affect.) Together, these categories have reconfigured the disciplines of media and cultural studies in ways both unexpected and productive.

Under the big tent of what are called infrastructure studies, we find intertwined such currents as “thing theory” (and other vestiges of the material turn ascendant since the 1990s), theories of the network and assemblage, studies of circulatory systems, various versions of the “energy” humanities, work within the study of digital platforms, and recent calls for an “elemental” approach to media (which would study any medium in relation to the air, water, earth, and other primordial substances on which it rests).¹ Every materialism or excavation of elemental force need not necessarily bring us to infrastructures, of course, but these moves often take the study of media back to those foundational substances from which ideas of infrastructure can then be built up.

Typically, within theoretical turns, older schools or paradigms invite re-readings that cast them as useful precursors. As the editors’ introduction to this volume suggests, media scholars working within certain traditions of Canadian communications research will find, in infrastructure studies, continuities with the political economy of such figures as Harold Innis, who conceived communication in relation to transportation and other infrastructures. Those working within Marxist media studies will note that, even if Marx himself never used the term, notions of infrastructure may be found hiding within his theorizations of the economic base, or of those phenomena, such as constant capital, in which social relations are materialized.²

The other conceptual category performing a similar “gathering” function with media studies is affect. Under the broadly inclusive umbrella of affect studies, we

find work on the resistant or reparative reading of cultural artifacts; on the circulation of feeling in material form; on the atmospheric, ambiances, and intensities of place or position; and on the sensorial dimensions of gesture or identity. If I cast infrastructure and affect studies as distant poles of attraction within media studies overall, it would be wrong to see this distance as corresponding simply to a division of labor—one in which, for example, the differences between affect and infrastructure were those of solidity (the softness of affect versus the hard, cold materiality of infrastructure) or scale (the localization of affect in the individual body versus the consignment of infrastructure to large-scale structures). Indeed, some of the most innovative work within media studies would explicitly overturn any such division.³

Affect may assume infrastructural form in the “dream worlds of promise” that, as Tom Western’s chapter on Athens in this volume shows, form part of those infrastructures through which activism, sound, and citizenship are connected. These “dream worlds” echo the “infrastructural imaginaries” that Matt Brennan sees as necessary if we are to overcome a condition in which exposure of the environmental damage caused by music’s infrastructures serves simply to induce the affectual states of guilt or shame in those committed to the communal values of live performance. Likewise, Gavin Steingo’s examination of electronic music making in South Africa finds an infrastructural grounding for affect in his claim that the “subtle, precarious, and powerful” dimensions of this music express the instabilities of the systems of electricity provision on which it depends. In Alejandra Bronfman’s detailed history of the production and geopolitics of mica, we find infrastructures of collective labor, from the Indian mine through the Holocaust labor camp, shaping complex entanglements of pride and pain, brutal exploitation and hope-inspiring intimacy. More loosely, as I have suggested elsewhere, we might see affect-saturated phenomena like musical scenes as infrastructures for exchange, apprenticeship, and collaboration.

In the simplest version of the triangular relationship between music, media, and infrastructure, media form part of the infrastructures by which music moves through the world. In late 2019, *RainNews*, a daily newsletter covering the music industries, reported on a study comparing Spotify’s adoption of new musical tracks with that of conventional radio broadcasters in the United States. While Spotify added new pieces of music quickly to its inventories, and subscribers began streaming them almost immediately, researchers found that radio station programmers were much slower in adopting new music for airplay. On Spotify, noted reporter Anna Washenko, 81 percent of the ten most streamed songs were between one and twelve weeks old. On US radio, by contrast, the average time between the release of the most frequently played tracks and their addition to radio playlists was between nine and twenty weeks.⁴

The movement of music into the world is often described in the watery language of streams and flows. As such, we might turn briefly to the work of the German scholar Cornelis Disco on the infrastructural role of rivers in European economies. Disco notes how these waterways are understood, typically, in terms of the mobility that they enable; they are “drains, conduits, arteries, routes connecting cities and river states through a geopolitical space.” To see rivers in this way is to understand them “longitudinally.” Disco suggests we might shift our vantage point to one that understands rivers as “traversal,” as blockages. In relation to the land that they divide, rivers are “ruptures, barriers, borders, and sometimes armed lines of defense between states and cities.”⁵

The *RainNews* study of music’s adoption by media platforms is likewise, I would suggest, about flows and blockages, conduits and defensive borders. If, in comparison to Spotify, US broadcast radio slows the movement of music into signals and ears, then it functions, within the larger ecology of musical dissemination, as an agent of delay. We find the same delay built into the distribution of music in Cuba on USB sticks, as analyzed in this volume by Alexandrine Boudreault-Fournier. When the transportation of music takes place, in her words, “more by foot than by fiber,” its circulation is slowed. This slowing allows for a richer connection of music with bodies, places, and acts of exchange.

Even more fancifully—and clinging, a little longer, to the analogy with rivers—we might compare the ways that Spotify, radio broadcasting, and USB sticks each directs new musical content along particular tributaries that bifurcate the overall directionality of music. These tributaries send pieces of music toward differentiated media spaces (the playlist, the radio music format, the artisanal computer) in which they gather with others on the basis of affinities that are either predetermined (by existing categories or rituals) or endlessly generated anew (by the ongoing algorithmic monitoring of use patterns or by the accidents of encounter).

Spotify, perhaps, is a medium, and it is most certainly a platform as the term is commonly understood. Broadcast radio has traditionally been regarded as a medium and has a variable relationship to the notion of platform. (There are platforms that host radio broadcasts alongside other content formats, even as the advertising and other industries regard radio itself as a platform.) To think of either Spotify or broadcast radio in the language of infrastructure is to raise the question of scalability. Present-day infrastructure studies might wish to see Spotify in relation to the server farms, water-cooling facilities, electricity sources, algorithmic operations, and wired connections that sustain its operation, and thus regard it as something other than an infrastructure but dependent on several. Present-day radio broadcasting rests increasingly upon a similar array of supports, but is partially embedded, as well, within the residual infrastructures of networks and local repeater stations that marked the rise of commercial radio

in the middle of the twentieth century. We might also shift perspective to one that begins with musical information and see both Spotify and broadcast radio as “places” within infrastructures that direct music along pathways leading from digital mastering and uploading services (studied recently by Jonathan Sterne and Elena Razlogova) onto streaming or broadcast platforms, and from there to millions of dispersed consumer devices that translate this information into audible sound.⁶

Mobility, Nanna Bonde Thylstrup tells us, is built into the meaning of infrastructure in the earliest uses of the term (at least in French), and Brian Larkin famously defined infrastructures as “built networks that facilitate the flow of goods, people, or ideas.”⁷ The first attempts in the study of infrastructures to complexify or challenge a sense of them as simply facilitators of mobility focused on the failures or leakages that rendered infrastructures inoperative, or theorized their weaknesses in relation to political conflicts.⁸ Several of the chapters in this book offer a different, equally productive alternative to a view of infrastructures centered exclusively on mobility or flow. They treat infrastructures less as horizontal conduits than as assemblages marked by the “vertical” accumulation of historical traces. Leslie Gay’s tracing of the historical life of May Irwin’s “Frog Song” in this volume captures the mobility of a text (and its various paratexts) across a variety and succession of media platforms, but it is also about the ways that images and musical texts are marked by the histories of their movement and the pressures that act upon them.

Like several of the authors gathered in this volume, we might see the depth of infrastructures as rooted in the multiple histories and processes that they come to register over time. Elodie Roy’s study of shellac, in this book, is about many things, but it is in part about what—invoking George Perec—she calls the low-level “infraordinary” processes at work within materials and structures. In particular, as she shows, the forward movement of objects through culture always struggles against the internal deterioration of these objects into primordial matter. If infrastructures are best known for the ways in which they produce connections in space, we should examine them as well, Roy argues, in terms of the temporalities of the materials of which they are made.

The question that lingers is whether an infrastructure’s accumulation of historical and semantic traces is a secondary effect of its functioning or, in fact, the transformation of an original function into an entirely new one: that of remembering the histories of the matter contained upon it. The difference between these two processes gives us very different histories of material and structure. Typically, we may see this internal deterioration as that which undoes an infrastructure, which undermines the mobility that many would see as its defining function. From a more ecologically focused vantage point, however, we might see infrastructures as ways of organizing (that is, coordinating and giving shape to)

the deterioration of earthly matter. One feature of that organization, as Lauren Flood's chapter on zombie media reminds us, is the withering or disappearance of the human skills required to slow or stop the deterioration of materials. In other words, and whatever the common understanding of its purpose, an infrastructure may be seen as a socially produced way of arranging the forms of the world so that they live out their material lives at particular speeds and toward distinctive endpoints.

The notion of form here may be enlarged to include more abstract examples of social phenomena. What is Spotify's ubiquitously recommended list of New Releases, for example, if not a cultural-technological infrastructure for the rapid deterioration of popularity? And what are most non-current radio music formats, then, but infrastructures for stretching out the time of that deterioration?

Elsewhere in this volume, José Martínez-Reyes moves close to core concerns of contemporary media theory in his deployment of the concept of *enviromateriality*: "Any object or artifact is part of a mediatic constellation, which embodies both historical relations as well as contemporary relations between other things and beings." This is, at one level, a theory of the object, one that casts it as inseparable from the entanglements that bind it to a particular environment. The notion of a mediatic constellation, however, might suggest that the object is *medial*, in its condensation of (and not simply its participation in) the relations that have marked its history. In the cruder language of media theory, then, the object stores such relations as part of its accumulation of sense. An object is not itself an infrastructure, however, and to see the processes just described in infrastructural terms, we must enact a conceptual leap. Do the "objects, materials, and other-than-human beings" of Martínez-Reyes's analysis together form an infrastructure of natural and social memory? In their scattered coexistence, do they constitute an archive to be set alongside the more familiar archives built of documents or human testimony?

An infrastructural turn has acted in different ways to reconfigure the disciplines of music, on the one hand, and those of media or communications studies, on the other. If the musical "object" (the text, the work) has for so long been at the center of musicology and music theory, the turn to infrastructure is one move in the broader dispersion of music into multiple forms of objecthood: those of its materials, of its sensory properties, and of the situated acts (the musicking) through which music is instantiated. In media or communications studies, on the other hand, the "object" has almost always been weak, reduced to an impulse, a message, a causality, or a token in the negotiation of meaning between consumer/subject and producing agency. As the study of music pulls back from its traditional objects, to examine the materials, pathways, and ecologies that have sustained them, and into which they may be dissolved, media studies often begins within infrastructures (like social networks or media distribution systems) to

treat the media object as their furthest reach. At their best, infrastructural studies of music reassemble their object as the point of convergence of multiple histories of materials, movements, and social processes (like the organization of labor or unfolding of colonial relations). Conversely, infrastructural media studies, in their most accomplished forms, will trace the ways in which materials, networks, and assemblages of various kinds carry out the social distribution of meaning, affect, and memory. Each media object, however weak or ephemeral, marks a point in this distribution, a location in a cartography of infrastructural power.

Notes

1. See the discussion in Starosielski (2019).
2. For an account, see Barney (2018).
3. For a useful discussion of possible relationships between infrastructure and affect studies, see Parks (2014).
4. Washenko (2019).
5. Disco (2008: 25).
6. See Sterne & Razlogova (2019: 9).
7. See, respectively, Thylstrup (2018: 26) and Larkin (2012: 328).
8. See, for example, Anand (2015).

References

- Anand, Nikhil. 2015. "Leaky States: Water Audits, Ignorance, and the Politics of Infrastructure." *Public Culture* 27(2): 305–330.
- Barney, Darin. 2018. "Infrastructure." *Krisis* 3(2): 79–81.
- Disco, Cornelis. 2008. "Taming the Rhine: Economic Connection and Urban Competition." In *Urban Machinery: Inside Modern European Cities*, ed. Mikael Hard and Thomas J. Misa, 23–48. Cambridge, MA: MIT Press.
- Larkin, Brian. 2012. "The Politics and Poetics of Infrastructure." *Annual Review of Anthropology* 43: 327–343.
- Parks, Lisa. 2014. "Media Infrastructures and Affect." *Flow* (19 May): online.
- Starosielski, Nicole. 2019. "The Elements of Media Studies." *Media+Environment* 1(1): online.
- Sterne, Jonathan, and Elena Razlogova. 2019. "Machine Learning in Context, or Learning from LANDR: Artificial Intelligence and the Platformization of Music Mastering." *Social Media + Society* 5(2): 1–18.
- Thylstrup, Nanna Bonde. 2018. *The Politics of Mass Digitization*. Cambridge, MA: MIT Press.
- Washenko, Anna. 2019. "Integr8 Research: How Spotify Is Replacing Record Stores and Influencing Radio Programming." *RainNews* (30 October): online.