

# MEDIA FIELDS

J O U R N A L

## Data/Spaces Introduction to Issue 6

Chuk Moran, Lan Xuan Le & Kevin Kearney

There is so much data! Where is it? Where are we in it?

Articles in this issue explore connections between data and space with a range of approaches and agendas. In this introduction, we observe some inclinations found in repetition and hint at the different directions various articles take. First, what is the theme of this issue? What, other than a bit of punctuation, connects data and space?

Start at the tangle of cables under the desk. The wires connecting monitor, speakers, mouse, keyboard, power, and Internet take up space. For a desktop computer, they form a messy little tangle that tech support workers call a rat's nest. On a laptop, tablet, or smartphone they are hidden away within the hard plastic case, but open it up and the tangle is still there. Some cables have been replaced by wireless connections that seem, from the point of view of a person sitting at a desk, to take no space at all. But a thin, flexible line has been replaced by a weak radio signal that extends variably around objects and creates spots of connection and disconnect. Wireless takes up space in

*Media Fields Journal* no. 6 (2013)

the spectrum, either causing interference with other signals or sharing a space of communication with them.

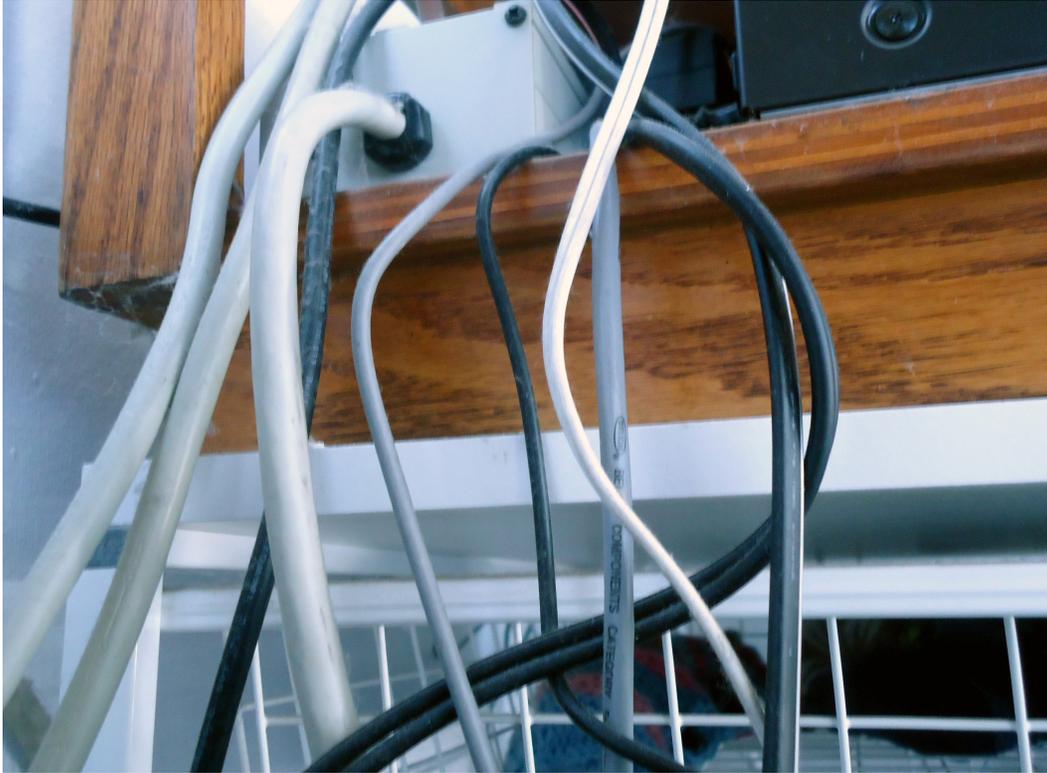


Figure 1. A tangle of cords that connect our computers to the Internet. “A series of tubes?”

At the same time that they occupy a forgotten physical space or a routinely ignored electromagnetic one, these zones of connectivity produce new spaces. We put our faces in these new places: games, the web, maps and directions, digital archives, and so on. The spaces visible through a smartphone get more attention than the space the phone occupies or the spaces that have been transformed in the production of the phone or the space where the phone will eventually go. Territories change to meet the worm’s eye view of the end user.

The tangle of cables is a diagram of the messy sacrifice of an old space to produce a new one. The space it occupies does not seem to matter compared to the space it builds. Once upon a time, not so long ago, the desk and surrounding area was decorated carefully. Interior designers, office dwellers with taste, and managers with strong feelings about the matter would have allowed a rat's nest in their modern and respectable office space. Today our standards have relaxed. We do not see the cables as we do not see the pile of video and audio equipment beneath the TV where, on a pleasant evening, we watch a film.

Computers are made of wires but we experience them as immaterial.<sup>1</sup> The purpose of this issue is to explore this dual nature of data/space. How are those seemingly ethereal spaces produced by data related to spaces made of other materials? The overwhelming answer is that the one is being prioritized over the other. GIS over traditional cartography, GPS over pedestrianism, web pages over servers, digital archives over library shelves, digital money over coin or paper, computer-assisted shock over filmic continuity.

But this relation of priority is only a vague summary of the specifics that transpire between various schemes of space. Is one space always prioritized over another? Isn't this perspective rather limited? The formula proposed here is that something about data produces a form of space that trades off with an already existing form of space. Let us consider each of the terms of this proposition in a bit more detail.

How does data create space? Claude Shannon's foundational mathematical theory of communication explains information as messages selected from a known set of possible messages. The meaning of these messages is irrelevant; the parameters for interpreting each message must be agreed upon in advance.<sup>2</sup> Data is a discrete outcome of interpretation, and can be produced by a range of signals. Shannon's theory is a complete failure as an approach to semiotics because it imagines interpretation as deterministic and consistent. However, the theory has been a colossal success as an approach to engineering communication technologies that mechanically interpret with astounding range, speed, and precision. As data presented itself, in the minds of designers, as an apt metaphor for an increasing range of phenomena, data

came to mediate more and more practices. How do these practices connect to space?

It is because of the widespread social uptake of data as a means by which to do many things that new spaces have been made and structured by data. Without an application reaching out into material space, data produces formal space-like arrangements. The abstractions of computer memory turn tiny variations on a storage medium into addressed blocks of data. The tuple and now graph have taken over database design, refining the table as a disciplinary procedure of knowledge.<sup>3</sup> But such abstractions must take concrete forms, influencing, bending, and directing matter to truly make spaces.

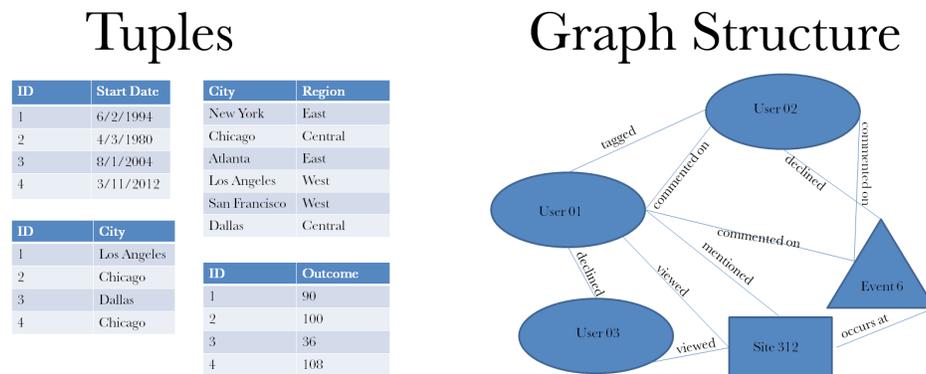


Figure 2. A graphical representation of database structures, which organize, shape, and define the power of data by establishing relationships between *categories* of knowledge.

Doreen Massey defines space as a condition, “the sphere of the possibility of the existence of multiplicity,” and an outcome, “a product of relations-between ... always in the process of being made”.<sup>4</sup> The town square is a product of its central location in town, the traffic that moves through it, the events that happen in it, the way people talk about it, and the way it is measured and mapped. Spaces are constituted through interactions. At the same time, space is the sphere of coexisting heterogeneity. It is more than the sum of its parts, in a sense, because it establishes the potential for different things to happen that are not already part of it. The square gives events

greater attention, a capacity for a greater crowd, and a central location from which to come and go.

In practice, people and machines doing things with data have created quite a range of spaces. Contributors to this issue consider these spaces. In digital magazine archives, those with access search and browse hundreds of thousands of viewable pages. For those traveling with GPS, urban space can become a blank canvas in which movement creates traces, lines, and shapes. Accessing the web from a mobile device, much of the world becomes the office, with favorite lunch spots down the street and videoconferencing equipment available at the touch of a button. Money flows between cell phones, pulses and tremors move from audio jack to vibrator, GIS makes ordinary spaces into coordinates on an increasing number of overlaid maps.

Data is not the only technology that sustains space. Before there was GIS, there were many other maps. Before digital video, filmmakers situated action sequences in clear spaces, where cameras did not crash, fly, or fragment events into shudders and thrills. Alongside digital money, local financial institutions and the stockpiles and circulation of hard boiled cash remain. Behind the online services that make the international knowledge worker at home in any city, huge server farms sell specifications of computing power in climate controlled warehouses glutted with racks of servers providing Internet content to all who ask. In some libraries, the hard copy magazine archives remain, with articles clipped out, margins marked up, subscription postcards stuffed inside waiting to drop to the ground when their page is finally opened. These technologies contribute to new spaces that are more than the sum of these parts.

Thus, the relation between spaces made by data and the other spaces that they affect is not simply one of priority, but does have a tendency. While almost no case shows a complete abandonment of an old space in favor of a new digital one, almost every case shows the increasing enthusiasm for spaces constituted by interactions dependent on, and generally influenced by, data. This does not mean data, networks, the digital, computers, or software determines the form of space in the world, drives social change into new forms of space, or creates spaces all of a certain flavor. It means that data has a discernible role in the production of new spaces, or new approaches to old spaces. And, in acclimating to these spaces, we should consider this role of

data for at least a passing moment, to keep a balanced awareness of what this world is where our political commitments lie.

This issue explores many interactions of data changing how space is constituted. There are many other cases that have not been covered here, such as the environmental impact of new spaces of data,<sup>5</sup> the virtual spaces within games<sup>6</sup>, or the ways data is being used to control transportation and infrastructure (Dodge & Kitchin 2012).<sup>7</sup> Our hope is to provide some conscious recognition that certain spaces depend on data that depend, in turn, on spaces of other kinds.

## Notes

- 1 Matthew Kirschenbaum, *Mechanisms: New Media and the Forensic Imagination* (Cambridge, MA: MIT Press, 2008).
- 2 Claude E. Shannon, "A Mathematical Theory of Communication," *The Bell System Technical Journal*, 27 (1948): 379–423.
- 3 Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Pantheon Books, 1977), 146-149.
- 4 Doreen Massey, *For Space* (London, UK: SAGE, 2005), 9.
- 5 Richard Maxwell and Toby Miller, *Greening the Media* (New York: Oxford University Press, 2012).
- 6 Michael Nitsche, *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds* (Cambridge, MA: MIT Press, 2008).
- 7 Rob Kitchin and Martin Dodge, *Code/Space: Software and Everyday Life* (Cambridge, MA: MIT Press, 2011).

**Chuk Moran** studies software conventions, their history, and their cultural implications, recently focusing on the practices of time associated with the undo command and the public sphere discourse supported by web humor. He completed his PhD in the Department of Communication at UC San Diego in June 2013. His book, *Superactually: Micro-Essays on Post-Ironic Life* came out

in March 2013 and he is now working on more fantastic theory-fiction in a collection of essays by time travelers visible, for now, at <http://homes-and-lanes.co.nf/>.

**Lan Xuan Le** is a PhD candidate in the Department of Film & Media Studies at UC Santa Barbara. She has a double masters in Public Health (Boston University) and Comparative Media Studies (MIT). She published professionally in peer-reviewed scientific and medical journals before a career move to the humanities. Her work now focuses on the history and theory of under-studied media technologies, such as the use of optical scanners in medical and scientific media.

**Kevin Kearney** recently received his PhD in English from UCSB. He is now Assistant Professor of English at Palomar College. His dissertation, "Regeneration Anxiety: Queer Theory and Speculative Fiction," explores the intersection between cultural representations of the apocalypse and anxieties over non-normative, "unproductive" sexualities: underlying our cultural fixation with dystopianism is an anxiety over the ability to regenerate and remake the world. He has published and presented widely on contemporary literature and film and the value of the humanities in the changing world.