

# Digital

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I think I've lost my phone.

In the issuance of that sentence, did you just feel sorry for me? Frustrated? A little jealous? Delighted in my liberation? Regardless of the specific reaction, an affective and emotional pull likely just rippled through your body at the absence of the most mundane and totalising extension of self: the device and its digital affordances. Donna Haraway (1990) long ago dubbed the imbrication of the digital and the human as the "cyborg". Today, "the digital" is everywhere as the cyborg has become everybody/every body. Watches, phones, refrigerators, houses, cities, supply chain networks, and even periods of history have been dubbed "smart". Far from a resultant liberation, data and the algorithms used to collect, sort, organise, and analyse data have become more invasive and with profound ramifications upon democracy. Digital geographies have become more totalising to the point of being an essential component to the study and understanding of geography as both field and experience. Geography as a discipline bears special responsibility in critically examining and intervening in the spread of digital devices, platforms, and code as they infiltrate, define, and shape the spaces and experiences of all human and animal life.

The term "digital" embraces the data and algorithms, software and hardware, and the affective, political, economic, social, and physical effects on human bodies, objects, and spaces, as well as the structural oppressions and systems of power that are encoded into these elements. Sarah Elwood and Agnieszka Leszczynski (2018:629) define the "digital" as a term that covers "digital systems that encode, store and manipulate data; the forms of the material objects that mediate environments and human engagements with digitality; the structurings of everyday life through digital praxes; and the knowledges that secure and reproduce digitality" (see also Ash et al. 2016). These two (of many) definitions depict how "digital" is an encompassing term, framed across multiple scales, lenses, and approaches even in the field of geography alone (see also Wilson 2018). As "algorithmic citizenship" increasingly relies on codification (Bridle 2016), geography has responded with feminist, queer, critical race, postcolonial, and other critical perspectives (cf. Browne 2017; Cockayne and Richardson 2017; Datta 2018; Elwood and Leszczynski 2011, 2018; Kwan 2002). This scholarship has attended to projects related to data studies, algorithm studies, the internet of things, cyber-geographies, spatial humanities and digital humanities, critical GIS and geoweb studies, geographies of the internet, communications, and telecommunications (ICT), social justice, digital ethics, and critical geographic thought, theory, and method.

Even before the “digital turn” came to geography (Ash et al. 2016), considerations of the digital and space were both a digital geography of everywhere, and a geography of digital everywhere. Rob Kitchin and Martin Dodge (2011) contend that “code/space” surrounds us in the mutual constitution of software and the spatiality of everyday life. The ubiquitous geographies of code/space reach everyone regardless of gender, race, class, or age through state satellite surveillance, using computers for homework (or the inability to use them or access the internet), cheap digital burner phones shared between poor families, online forms and background checks required for minimum wage jobs, digital transmission of funds from urban workers back to rural families, and Facebook state reconnaissance (with a quarter of the world as members) among other digital platforms. In fact, code, social media, and data now play a central role in shaping gender and racial identities, reinforcing sexist and racist stereotypes into all aspects of spaces ranging from the courtrooms and jails to local pharmacies and job applications (Browne 2017; Cheney-Lippold 2017; Noble 2018; Thatcher 2013).

In the early 2010s, the academy, politicians, and markets became fixated on data, specifically the promises of big data alongside conversations about open data and data justice (cf. Burns and Thatcher 2014; Dalton and Thatcher 2014; Johnson 2014). By the end of the decade, the public’s obsession with algorithms and their effects (including artificial intelligence and machine learning) reached a point of “algorithmic fetishism” (Monahan 2018). For example, for those with access to smart phones and other GPS devices, spatial cognition has vastly decreased in the last decade due to the rise of and dependence on geoweb software and geolocation apps (Grabar 2014). In the midst of this transformation, the most-prized form of data for algorithmic output emerged as geodata. In other words, the data captured to represent our identity, transportation behaviours, health, purchasing preferences, and even our sexual preferences are deemed most valuable to researchers, government agencies, and corporations when they can be geolocated in real time. Critical GIS interventions encourage attention to the ethics, processes, and practices that afford the mapping of these and other data (Thatcher 2013, 2017; Wilson 2017).

Along with the geographical role in data analysis came the creation of “smart cities”, whereby data and predictive algorithms promised and still promise to predict flows of traffic, speed up emergency responder pathways, and lessen crime. Revealing the depth and breadth in smart city interests, Ayona Datta (2018:1) addresses how India claims to be embarking upon a “smart urban age” in using the “‘future’ as a blueprint for social power relations in postcolonial urbanism”. Geographers have also critically addressed issues of surveillance and privacy, securitisation and privatisation at stake in smart cities, as well as the heavy financial burden placed upon citizens to employ such technology (cf. Cowley and Caprotti 2018; Gabrys 2014; Kitchin 2014; Leszczynski 2016; Shelton et al. 2015).

GIS has also proved a core concern of the growing interdisciplinary field of the digital humanities. Historians, literary scholars, language scholars, and art historians eagerly adopted and adapted GIS technologies to craft cutting-edge mapping projects: walkthroughs of ancient cities and the first towns of freed slaves in South Carolina, and the personal histories of urban renewal and more recent urban

evictions (Byrd 2015; Digital Scholarship Lab 2017; Anti-Eviction Mapping Project 2018). With the use of qualitative and quantitative methods in dialogue, projects in digital humanities promote continued interdisciplinary conversation, which can support significant headway for future digital geographic research (Giesecking 2018). Like the project of feminist digital geographies that seek to “unsettle the masculinist epistemologies undergirding much of digital work”, digital humanists, like geographers, are at the front lines of colonial, white supremacist, ableist, heteronormative epistemologies evident in many digital projects as well (Elwood and Leszczynski 2018:630; see also Datta 2018; Giesecking 2017; Hamraie 2017; Hicks 2017; Noble 2018).

Most urgently, the “digital” requires attention to the space and time of everyday life in order to attend to the ways that the co-production of space, people, and the digital coalesce. Stephen Graham (2005) described many of these phenomena as “software-sorted geographies” to record how behaviour patterns are shaped through computer code intended to sort “good” consumers and citizens from those that are not compliant with hegemonic ideals. The real-world effects of geo-based algorithms are further widespread than most people imagine, which includes shaping if not forcing the outcome of elections, amplifying surveillance as a solution, redefining currencies and governance, laying out poorly paid Uber routes, and pushing the virality of misinformation/actual fake news (Bakir and McStay 2018; Browne 2017; Persily 2017; Rosenblat 2018; Zook and Blankenship 2018). While computing reads as “objective” science that results in truth, algorithms are not neutral. They reproduce structural oppressions of racism, sexism, homophobia, transphobia, ableism, and colonialism in the ways they target individuals for policing, hiring or firing in the workplace, and even lead to suicide and violence (Noble 2018; Zook and Blankenship 2018).

The scholarship of geographic thought, theory, and method is in a prime position to attend to issues of digital ethics and offer intervention for digital activists. Geographic studies are prime to argue against “digital dualism”, the idea we behave differently online and IRL (or “in real life”, as the youth say); the online world actively shapes our everyday world, and vice versa. While much attention has been devoted to online/IRL identities, geographers have much yet to attend to in regard to the *where* of the internet and the co-production on online/IRL spaces.

One heavily theorised internet geography is that of the body. Beyond the actual technology in our bodies (teeth, hips, eyes, knees, organs), there is the cyborg we produce on Instagram, in PlayStation 4’s “Call of Duty”, and even in the pattern of communications in texts and emails. The spread of search engines and social media have prompted the growth of different networks, and also shifted the spatiotemporality of knowledge, news, and even social movement resistance as immediate. These platforms and devices also alter the mind itself; teenagers who heavily use devices are prone to increased anxiety, depression, and loneliness (RSPH and Young Health Movement 2017).

Many scholars still see the digital as beyond their research focus, yet the digital has permeated most surfaces, bodies, and imaginaries: from the stock exchange to recipe exchanges, from Fitbits on wrists to phone screens in pockets (should it

ever actually be designed to fit in women's pockets, should women actually be gifted pockets) (Farokhmanesh 2018). The internet was once imagined as a "technotopia" or platform for radical democracy, but has fallen wildly short of those promises. Instead it has more often become a tool to support and promote racist, sexist, ableist, heteronormative, and colonial neoliberal capitalism. Geography's attention and intervention are required.

As sociologist Karen Gregory (2018) wrote: "We are in need of new visions, new imaginaries of what a digital world can or should be. The nightmare versions are exhausting (literally, exhaustion is the theme of our time)." Only in embracing the digital as part of the larger production of space can we begin to reckon with the rich, complex geographies of the world. As simple as it would be to sort out our feelings and ideas about finding and losing our phones, such an accomplishment lies ahead in the study of (digital) geographies.

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