# Digital Anthropology

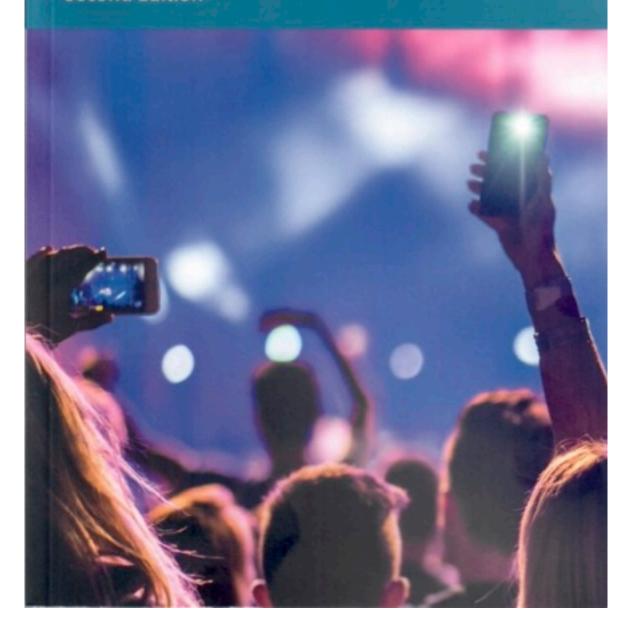## Edited by Haidy Geismar and Hannah Knox

### Second Edition

*Digital Anthropology, 2nd Edition* explores how human and digital can be explored in relation to one another within issues as diverse as social media use, virtual worlds, hacking, quantified self, blockchain, digital environmentalism and digital representation. The book challenges the prevailing moral universal of "the digital age" by exploring emergent anxieties about the global spread of new technological forms, the cultural qualities of digital experience, critically examining the intersection of the digital to new concepts and practices across a wide range of fields from design to politics.

In this fully revised edition, *Digital Anthropology* reveals how the intense scrutiny of ethnography can overturn assumptions about the impact of digital culture and reveal its profound consequences for everyday life around the world. Combining case studies with theoretical discussion in an engaging style that conveys a passion for new frontiers of enquiry within anthropological study, this will be essential reading for students and scholars interested in theory of anthropology, media and information studies, communication studies and sociology. With a brand-new Introduction from editors Haidy Geismar and Hannah Knox, as well as an abridged version of the original Introduction by Heather Horst and Daniel Miller, in conjunction with new chapters on hacking and digitizing environments, amongst others, and fully revised chapters throughout, this will bring the field-defining overview of digital anthropology fully up to date.

**Haidy Geismar** is Professor of Anthropology at UCL, UK.

**Hannah Knox** is Associate Professor of Anthropology at UCL, UK.

ANTHROPOLOGY

# 3 Rethinking digital anthropology

*Tom Boellstorff*

'Digital anthropology', once literally unthinkable, at best a contradiction in terms, is well on its way to becoming a full-fledged subdiscipline, alongside formations like legal anthropology, medical anthropology, and economic anthropology, or the anthropologies of migration, gender, and the environment. Undergraduate and graduate courses (indeed entire degree-granting programs) now exist, and a canon is in formation, albeit a canon deeply engaged with scholarship from communications, media studies, sociology, and other disciplines. We are at an opportune time for rethinking what digital anthropology might entail.

With regard to the first term of the phrase – digital – it bears emphasizing that too often it still 'does little more than stand in for "computational" or "electronic"' (Boellstorff 2011: 514). But 'digital' should not act as a mere placeholder, simply marking interest in that which you plug in to run or recharge. Digital technologies are now so globally ubiquitous that from this standpoint all anthropology would be digital anthropology in some way, shape, or form. Just as not all anthropology is medical anthropology despite the fact that all humans have bodies and experience health and disease, so digital anthropology needs a framework – not a precise definition, but flexible parameters that can inform research agendas. Crucially, a framework for the digital can also contribute to the second term of the phrase 'digital *anthropology*'. This is because what *anthropos*, the human, means in terms of embodiment, meaning-making, and practice is being deeply transformed by digital technology and culture.

With all this in mind, in this chapter I seek to contribute to rethinking the digital with regard to digital anthropology. In Part 1, I begin by addressing an issue with foundational implications for digital anthropology: the relationship between the online and the offline.[1] This relation has pivotal ontological, epistemological, and political consequences: it determines what we take the digital to be, what we take knowledge about the digital to entail and what we understand as the stakes of the digital for social justice. I focus on the greatest negative ramification of an undertheorized notion of the digital: the mistaken belief that the online and offline are fusing into a single domain. In Part 2, I engage in the classic anthropological practice of close ethnographic analysis, through case studies drawn from the early days of my research in the virtual world Second Life. In Part 3, I link the theoretical discussion of Part 1 with the ethnographic discussion of Part 2 – another

classical anthropological practice, that of 'tack[ing] between the most local of local detail and the most global of global structure in such a way as to bring them into simultaneous view' (Geertz 1983: 68).

To foreshadow the crux of my argument: I develop a notion of the digital that harkens back to its original meaning of digits on a hand.[2] Rather than a diffuse notion of the digital as that which is merely electronic or online, this opens the door to a radically more robust conceptual framework, one with two key elements. The first is a foundational appreciation for the constitutive role of the gap between the online and offline (like the gaps between 'digits' on a hand). This resonates with the dialectical understanding of the digital developed by Miller and Horst in the previous chapter. The second element of this digital framework, drawing from the etymology of *index* as 'forefinger', is a whole set of theoretical resources for understanding the *indexical* relationships that constantly co-constitute both the online and offline. I thus push toward an indexical theory for understanding how the online and the offline 'point' at each other in social practice. This results in *a theory of the digital that is as imbricated with the human as it is with internet technology as such*. This means that, for instance, even if forms of quantum computing not predicated on binary digits someday become common, digital cultures (and thus digital anthropology) will still exist.

## Part 1: challenging the notion of blurring

Before turning to this theory of digital anthropology and the ethnographic encounters that inspired it, it is imperative to first identify the core problem to which a more carefully articulated notion of digital anthropology can respond. This is the idea that we can no longer treat the online and offline as distinct or separate. It lies beyond the scope of this chapter to catalogue examples of scholars framing the study of the digital in this manner, as this is not a review essay or even a critique as such.[3] In an insightful overview of the ethnography of digital media, E. Gabriella Coleman nicely summed up this perspective when noting that with regard to research on virtual worlds, 'the bulk of this work, however, continues to confound sharp boundaries between off-line and online contexts' (Coleman 2010: 492). Coleman's phrasing captured the sense that 'sharp boundaries' are to be avoided – that they are scholarly conceits that falsely separate online and offline contexts, rather than ontologically consequential gaps that constitute the online and offline. In fact, these sharp boundaries are real and therefore vital topics for anthropological inquiry.

While less evident in this particular quotation, the sense that one can no longer see the online and offline as separate – despite the obvious fact that they are, depending on how you define 'separate' – encodes a historical narrative that moves from separation to blurring or fusion. Such presumptions of an impending convergence between the virtual and actual mischaracterize the careful work of earlier ethnographers of the online.[4] For instance, Vili Lehdonvirta has claimed that much virtual-world scholarship is 'based on a dichotomous "real-virtual" perspective' (Lehdonvirta 2010: 2). Lehdonvirta correctly

concluded, 'scholars should place [virtual worlds] side-by-side with spheres of activity such as family, work or golf, approaching them using the same conceptual tools' (2), and 'the point is not to give up on boundaries altogether and let research lose its focus, but to avoid drawing artificial boundaries based on technological distinctions' (9). What needs questioning is Lehdonvirta's assumption that virtual worlds are artificial boundaries, while spheres of activity such as family, work, or golf are somehow not artificial. At issue is that technological distinctions are central to the human condition: artifice, the act of crafting, is a quintessentially human endeavor. To presume otherwise sets the stage for the 'principle of false authenticity', which, as Miller and Horst note, occludes the fact that 'people are not one iota more mediated by the rise of digital technologies' (this volume: 26).

A three-part narrative of movement is embedded in these concerns over authenticity, dichotomies, and blurring: an originary separation, a coming together, and a reunification. This narrative is a teleology insofar as there is a defining endpoint: the impending non-separation of the digital and the physical, often presented in the apocalyptic language of 'the end of the virtual/real divide' (Rogers 2009: 29). Indeed, such contentions of an end times represent not just a teleology but a theology – because they so often appear as articles of faith with no supporting evidence, and because they resemble nothing so much as the dominant Christian metaphysics of incarnation, of an original separation of God from Man in Eden resolved in the Word made flesh (Bedos-Rezak 2000). This speaks to pervasive Judeo-Christian assumptions of 'the antagonistic dualism of flesh and spirit' that have strongly shaped dominant forms of social inquiry (Sahlins 1996: 400).

In place of this dualism, our starting point must be what I have elsewhere termed the digital reality matrix (Boellstorff 2016: 388). This is a four-way distinction between (1) the digital and unreal; (2) the physical and unreal (for instance, acting in a play or wearing a costume for Halloween); (3) the physical and real; but also (4) the digital and real (for instance, learning a language online that you can speak in the physical world, or making a friend online). This provides a rejoinder to conflations of the physical and real, with its implication that the digital is *always* unreal. The persistence of such misrepresentations underscores the urgent need for rethinking digital anthropology.

Some readers may have recognized the homage at play in my phrase 'rethinking digital anthropology'. In 1961, the eminent British anthropologist Edmund Leach published the essay 'Rethinking Anthropology'. In it, Leach chose a fascinating analogy to justify anthropological generalization:

> Our task is to understand and explain what goes on in society, how societies work. If an engineer tries to explain to you how a digital computer works he doesn't spend his time classifying different kinds of nuts and bolts. He concerns himself with principles, not with things. He writes out his argument as a mathematical equation of the utmost simplicity, somewhat on the lines of: $0+1=1$; $1+1=10$. . . [the principle is that] computers embody their

> information in a code which is transmitted in positive and negative impulses denoted by the digital symbols 0 and 1.
>
> (Leach 1961: 6–7)

Leach could have not have predicted the technological transformations that now make digital anthropology possible. Nonetheless, we can draw two prescient insights from the analysis. First, 39 years after Bronislaw Malinowski established in *Argonauts of the Western Pacific* that 'the essential core of social anthropology is fieldwork' (Leach 1961: 1; see Malinowski 1922), Leach emphasized that anthropologists must attend to the 'principles' shaping everyday life. Second, to illustrate these principles, Leach noted the centrality of gaps to the digital: even a digital computer of nuts and bolts depends on the distinction between 0 and 1.

Leach's observations anticipate my own argument. The persistence of narratives bemoaning the distinction between the physical and the digital miss the point – literally 'miss the point', as my discussion of indexicality in Part 3 will demonstrate. The idea that the online and offline could fuse makes as much sense as a semiotics whose followers would anticipate the collapsing of the gap between sign and referent, imagining a day when words would be the same thing as that which they denote.[5] I will therefore discuss what such a rethought notion of the digital might entail and how, for such a rethinking to apply to digital *anthropology*, questions of theory cannot be divorced from questions of method. First, however, I turn to two case studies: I want the trajectory of this argument to reflect how my thinking has emerged though ethnographic engagement. This is not a detour, digression, or mere illustration: a hallmark of anthropological inquiry is taking ethnographic work as a means to develop theory, not just data in service of preconceived paradigms.

## Part 2: two days in my early Second Life

Given the scope of this chapter, I cannot devote much space to background on Second Life.[6] Briefly, Second Life is a virtual world – a place of human culture realized by a computer program through the internet. In a virtual world, you typically have an avatar body and can interact with other persons around the globe who are logged in at the same time; the virtual world remains even as individuals shut their computers off, because it is housed in the 'cloud', on remote servers.

When I first joined Second Life on June 3, 2004, you paid a monthly fee and were provided a small plot of virtual land. In February 2005, I sold the land I had been initially allocated and moved to another area. However, at the time I wrote the first version of this chapter in 2011, to get myself into an ethnographic frame of mind, in another window on my computer I went into Second Life and teleported back to the exact plot of virtual land where my original home once stood in 2004. At that moment – late morning according to my California time – there were no avatars nearby. The large house that once stood here, my first experiment at building in Second Life, disappeared long ago and nary a virtual nail remains of

*Figure 3.1* The land where my first home in Second Life once stood



*Figure 3.2* At rest in the virtual tree

my prior labor. But looking at my old land's little patch of coastline, I think I can still make out the remnants of my terraforming, my work to get the beach to slope into the water just so, in order to line up with the view of the distant shore to the east. Even in virtual worlds, traces of history endure (Figure 3.1).

The current owners of my onetime virtual homestead have not built a new house to replace the one I once crafted; instead, they have made the area into a wooded parkland. To one side, swings rock to and fro with automated animations, as if bearing unseen children. On the other side, at the water's edge, a dock invites repose. In the center, near where the living room of my old home was located, there now stands a great tree, unlike any I have ever seen in Second Life. Its long branches slope gracefully up toward the bright blue virtual sky. One branch, however, snakes out horizontally for some distance; it contains an animation allowing one's avatar to stretch out, arms folded behind one's head and feet swinging in the digital breeze. So here on this branch, where my first Second Life home once stood, my virtual self will sit as I reflect on those first days of virtual fieldwork (Figure 3.2).

In what follows, I recount hitherto unpublished fieldwork excerpts from two concurrent days early in my research. (Second Life at this time had only text communication, which I have edited for concision. As is usual in ethnographic writing, to protect confidentiality all names are pseudonyms.) None of these interactions were noteworthy; it is unlikely anyone else bothered to record them. Yet in each case I encountered traces of broader meaning that point toward rethinking digital anthropology.

### Day 1: a slow dance for science

At 12:28 p.m. on June 30, 2004, I walked into my home office in Long Beach, California, and turned on my computer. I 'rezzed' into being in Second Life in my recently constructed house, right where my avatar will sit in a tree seven years later as I write this narrative. But on this day, only a month into fieldwork, I left my virtual home and teleported to a dance club at the suggestion of Susan, who was already at the club with their friends Sam, Richard, and Becca. At this point Second Life was quite small and there were only a few clubs. At this club the featured attraction was ice skating; the club had been decked out with a rink, and ice skates were available on the walls to attach to your avatar. In fact you bought the skates and they appeared in a box; if you did not know how to do things correctly, you would end up wearing the box on your head, not the skates on your feet. Most residents were new to the virtual world's workings; Susan was having a hard time getting the skates to work, and Sam and Richard were helping as best they could:

| | |
|---|---|
| *Sam:* | Susan, take them off your head lol [laugh out loud] |
| *Sam:* | put them onto the ground |
| *Susan:* | thanks |
| *Susan:* | hehe, I'm new to this game |
| *Susan:* | have I got them on? |
| *Richard:* | click on the box on your head and choose edit |
| *Richard:* | then click the 'more' button |
| *Richard:* | then 'content' and you'll see them |

| | |
|---|---|
| *Susan:* | I have the skates on . . . I think I do anyway |
| *Richard:* | she has the box on her head |

Susan (and others) continued to have trouble using the skates. In the meantime, I had managed to figure it out and was soon skating near Becca, who saw from my profile that I was an ethnographer:

| | |
|---|---|
| *Becca:* | Tom would you like to slow dance? |
| *Richard:* | they [the skates] are still in the box I believe |
| *Susan:* | But I can't see it [the box] on my head |
| *Becca:* | for science |
| *Tom:* | how do you do it? |
| *Becca:* | lol |
| *Susan:* | hehe |
| *Becca:* | um . . . not sure |
| *Sam:* | I don't see a box on her head. |
| *Becca:* | hehe |
| *Richard:* | I do |
| *Susan:* | So is it on my head then or not? |
| *Sam:* | So Susan . . . you get a set of skates in a box? |
| *Susan:* | hehe, I think that might work |
| *Becca:* | oh there we go |
| *Becca:* | lol |
| *Susan:* | Yeah, I got them from the box, moved them into my inventory and then put them on |
| | IM [instant message]: Becca: just don't put your hand up my skirt . . . hehe |

Despite the fact that I have edited this conversation for the sake of brevity, the ethnographic detail in this excerpt alone could take many pages to properly analyze and illustrates the kinds of data obtainable from participant observation that could not be acquired via interviews or other elicitation methods. I will note just six insights we can glean from this fieldwork encounter.

First, residents worked together to educate each other, rather than relying on the company that owns Second Life or some kind of instruction manual.

Second, gender seems to be shaping the interaction: it is largely men advising women. Since everyone knows that physical-world gender might not be aligning with virtual-world gender, this has implications for social constructions of gender.

Third, during this period when Second Life had only text chat (and even after the introduction of voice in 2007, since chat remained common), residents had learned to parse conversations in which there were multiple threads of overlapping talk. For instance, Sam asked Susan, 'you get a set of skates in a box?' and Susan answered three lines later, after first answering 'I think that might work', in reference to a different thread of conversation.

Fourth, when Becca made a slightly risqué comment to me ('just don't put your hand up my skirt'), they switched to an instant message, meaning that this

text was visible to no one besides myself. This apparently trivial practice helped me realize early in my research that I should attend not just to the content of statements, but to their modality of articulation – 'chat', 'shout' (text that, like chat, is publicly visible but to avatars at a greater distance), and instant messages sent both to individuals and groups of residents. This links to longstanding linguistic interest in 'codeswitching', but can also take forms of 'channelswitching' between different technological modalities of communication (Gershon 2010a).

Fifth, these insights (and many more) had precedents and contemporary parallels. Peer education, the impact of gender norms even when physical-world gender cannot be ascertained, and the existence of multiply-threaded and multimodal conversations were not unique to this interaction, to Second Life, or even to virtual worlds. Thus, an awareness of relevant literatures proved helpful in analyzing these phenomena.

Sixth, this encounter underscored how the ethnographer is not a contaminant. The fact that I was participating in Second Life culture without deception was not an impediment; rather, it made the research more scientific. My 'slow dance for science' illustrated the practice of participant observation, online and offline.

### Day 2: here and there

On July 1, 2004, one day after my slow dance for science, I logged into Second Life again to conduct fieldwork, appearing as usual in my house. Rather than 'teleporting' instantaneously to another part of the virtual world, I walked down a nearby paved path. In the distance I saw three avatars, Robert, Karen, and Timothy:

| | |
|---|---|
| *Robert:* | Why, hello! |
| *Karen:* | Hi Tom |
| *Timothy:* | Hi tom |
| *Tom:* | Hello! I'm your neighbor down the road |
| *Karen:* | Ahh cool |
| *Karen:* | Sorry for all the mayhem here, I have crazy friends |
| *Robert:* | Hope the hoopla hasn't been a problem |
| *Tom:* | What hoopla are you talking about? |
| *Robert:* | Hee hee |
| *Karen:* | rofl [rolling on the floor laughing] whew |
| *Robert:* | just asking for it! |
| *Timothy:* | whew |
| *Karen:* | Oh the avie [avatar] launch game we had . . . the explosions, lap dances |
| *Tom:* | Whatever it is, is hasn't bothered me! |
| *Karen:* | Very good |
| *Karen:* | So which way down the road are you? |
| *Tom:* | To my right |
| *Karen:* | Ah very good |

| Karen: | Got a house, or doing something else there? |
|---|---|
| Tom: | Just got a place for now |
| Karen: | cool |
| Karen: | Gonna turn this into a small boutique |
| Tom: | cool! |

Already from the discussion, I had noted how co-presence in a virtual neighborhood could help shape online community: place matters when the online context is a virtual world. Karen then changed the subject:

| Karen: | wow Tom, reading your profile here. |
|---|---|
| Karen: | very interesting |
| Karen: | um . . . Indonesia, really? |
| Tom: | Yep! Cool place. Not cool really, hot and humid, but fun. |
| Karen: | lol how'd you end up over there? |
| Tom: | Random life events, backpacking there after college & meeting people |
| Karen: | that's gotta be quite interesting I imagine |
| Tom: | very! |
| Tom: | is that your glowing dance floor over there to my left? |
| Karen: | nope, no clue who it's for |
| Karen: | a little bright |
| Tom: | there's a lot of building right now in this area! It's cool – every day the landscape is transformed |
| Karen: | yes, a lot of this land was just released |
| Timothy: | happens in new areas |
| Timothy: | finally got a house on one side of mine |
| Timothy: | mini tower going in behind |
| Tom: | laugh |
| Karen: | lol |
| Timothy: | as long as they don't cut off my view |
| Karen: | they screwed up my view in Shoki [region] |
| Robert: | Yeah, it's just sad. |
| Karen: | even though he said he wouldn't |
| Timothy: | think I am safe there |

After a brief discussion of my positionality as a researcher, the conversation turned once again to virtual place. In my field notes I noted the importance of one's view across a virtual landscape. Encounters like this led me to realize the importance of place to virtual worlds (see Boellstorff 2015: chap. 4). The topic then turned to multiple avatars and I asked about The Sims Online, another virtual world I had briefly explored:

| Tom: | do you play more than one avie at the same time? I know people who did that in The Sims Online but it seems that would be hard to do here. |
|---|---|
| Karen: | no, not here, in TSO [The Sims Online] I did |

| Robert: | Never saw the Sims, did I miss much? |
|---|---|
| Timothy: | I never tried TSO |
| Karen: | Didn't miss shit |
| Karen: | so you missed There altogether? |
| Tom: | Yes, I missed There completely. What was it like? |
| Timothy: | I remember that |
| Tom: | Was it more like Second Life than TSO? |
| Karen: | Very much like this, but more cartoonish and everything had to be PG-13 |
| Robert: | Stepford Disney World |
| Tom: | Is it still around? |
| Timothy: | and not quite as open |
| Karen: | yes, Stepford Disney lol |
| Karen: | but there's still a lot of charm to There |
| Timothy: | but it has its nice parts |
| Robert: | Better chat, great vehicles |
| Timothy: | Meeting Karen being one of em |
| Robert: | Card games! |
| Karen: | yes, I met both you guys in There |
| Karen: | the horizon is clear, not foggy like here |

This section of the discussion reveals how understandings of Second Life were shaped by previous and sometimes ongoing interaction in other virtual worlds. This influenced not only how they experienced Second Life, but their social networks (for instance, Karen first met Robert and Timothy in There.com). Yet to learn about how other virtual worlds shaped Second Life sociality, it was not necessary for me to conduct fieldwork in these other virtual worlds. Multi-sited ethnographic research is certainly useful given the appropriate research question – for instance studying a virtual diaspora that moves across several virtual worlds (Pearce 2009). However, it was clearly possible to explore how other places shape a fieldsite without visiting them personally. Indeed, when discussing multi-sited ethnography George Marcus was careful to note the value of 'the strategically situated (single-site) ethnography' (Marcus 1995: 110). This was an unexpected methodological resonance between my research in Second Life and Indonesia: to learn about *gay* identity in Indonesia, it was unnecessary to visit Amsterdam, London, or other places those Indonesians saw as places that influenced their understanding of homosexual desire.

Once again, virtually embodied presence was critical to my ethnographic method. In this one encounter, I gained new appreciation for virtual place, the importance of vision and 'a good view', and the impact of other virtual worlds. I mentioned none of these three topics in my original research proposal, even though they all turned out to be central to my conclusions. The insights were emergent, reflecting how 'the anthropologist embarks on a participatory exercise which yields materials for which analytical protocols are often devised after the fact' (Strathern 2004: 5–6).

## Part 3: digital anthropology, indexicality, and participant observation

These ethnographic materials highlight how the gap between digital and physical is culturally constitutive, not a suspect intellectual artifact to be blurred or erased. This is not limited to virtual worlds. For instance, Daniel Miller has noted that for persons in Trinidad who have difficulty with physical-world relationships, 'Facebook provides an additional space for personal expression' (Miller 2011: 169). That is, forms of expression and relationship can take place on Facebook, but the space of Facebook and the space of Trinidad do not thereby collapse into each other. You can be on Facebook without being in Trinidad, and you can be in Trinidad without being on Facebook. Another example: in studying breakups online, Ilana Gershon noted that such disconnections 'are emphatically not the disconnections between supposedly real interactions and virtual interactions. Rather, they are disconnections between people – the endings of friendships and romances' (Gershon 2010b: 14). These endings are both online and offline in character. To rethink digital anthropology, we must build upon such insights to identify a common set of issues that make digital anthropology cohere and we can then explore in particular fieldsites – whether those fieldsites be online, offline, or both. This is why I now scope out from the specificities of Second Life, and even virtual worlds, toward a theoretical and methodological framework for digital anthropology.

### Indexicality as a core theory for digital anthropology

In my introduction, I suggested that an indexical theory for understanding the relationship between online and offline could help in rethinking digital anthropology. Scholars of language have long noted the existence of words that lie outside traditional notions of reference, because their meaning depends on the context of social interaction. For instance, the truth of the sentence:

Letizia de Ramolino was the mother of Napoleon

[I]n no way depends on who says it, but simply on the facts of history. But now suppose we try to analyze:

I am the mother of Napoleon

We cannot assess the truth of this sentence without taking into account who the speaker is . . . we need to know, in addition to the facts of history, certain details about the context in which it was uttered (here, the identity of the speaker).

(Levinson 1983: 55–56)

The philosopher Charles Sanders Peirce termed words like these 'indexical signs' (Levinson 1983: 57) and emphasized their causal rather than symbolic relationship to referents. To use two examples familiar to linguists: smoke is an index of

fire, and a hole in a piece of metal is an index of the bullet that passed through the metal. In each case, a causal relationship 'points back' from the index to the referent. A hole in a piece of metal does not conventionally symbolize a bullet in the same way that a drawing of a bullet shape or the word *bullet* can stand for an actual bullet. Instead, the hole in the piece of metal refers to the bullet causally – the bullet made the hole. Similarly,

the smoke does not 'stand for' the fire the way in which the word *fire* might be used in telling a story about a past event. The actual smoke is connected, spatio-temporally and physically, to another, related, phenomenon and acquires 'meaning' from that spatio-temporal, physical connection.

(Duranti 1997: 17)

While these examples indicate that indexical signs do not have to be words, a whole range of words are indeed indexicals (indexical denotationals, to be precise), including 'the demonstrative pronouns *this, that, those*, personal pronouns like *I* and *you*, temporal expressions like *now, then, yesterday*, and spatial expressions like *up, down, below, above*' (Duranti 1997: 17). For instance *this* is an indexical because its meaning shifts based on the cultural context of the utterance. To say 'the sun is round' or 'the sun is square' can be assigned a truth value regardless of my position in time and place. However, I cannot assign a truth value to the utterance 'this table is round' unless I know the context to which the word *this* can be said to point. Indexicals can be found in all human languages, and interesting variations exist. For instance, in languages like French or German, formal versus informal second-person pronouns (*tu/vous* and *du/Sie*, respectively, which in English would all be translated *you*) mark obligatory forms of social indexicality.

As noted by Duranti, indexicals are 'grounded' in spatially and temporally specific social realities:

A basic property of the indexical context of interaction is that it is dynamic. As interactants move through space, shift topics, exchange information, coordinate their respective orientations, and establish common grounds as well as non-commonalities, the indexical framework of reference changes.

(Hanks 1992: 53)

This 'interactive emergence of the indexical ground' (Hanks 1992: 66) provides the point of entrée for rethinking digital anthropology in terms of indexicality. The spatially and temporally specific social realities are no longer limited to the physical world; the processes of moving through space and establishing common grounds can now take place online as well as offline. Confronted with multiple embodiments, and thus with indexical *fields of reference* that are multiple in a new way, we thereby face the digital as an emergent set of social realities that cannot be straightforwardly extrapolated from the physical (or the digital, for that matter). For instance, the social intentions, emotions, decisions, and activities that take

place on Facebook cannot be reduced to the physical-world activities and identities of those who participate in it, even though these can have physical-world consequences ranging from a romance's dissolution to a political revolution. It is possible, for example, to become a closer friend with someone on Facebook without meeting that person in the physical world along the way.

The reason why it is possible to rehabilitate the digital so as to transcend its common conflation with 'online' is that the concept is fundamentally linked to indexicality. The etymology of *index* (Latin, forefinger) and *digit* (Latin, finger) both refer to the embodied act of pointing – and this has momentous implications when you can have multiple bodies and multiple fields of reference (even when there is not a clear avatar body involved). Building upon this characteristic of the digital through the framework of indexicality compels attention to the indexical ground of digital culture.[7]

The greatest strength of an indexical perspective is that it avoids the conceptual danger discussed in Part 1: the idea that the gap between the online and offline is headed down a teleological path to a blurring that we might celebrate or rue. It would be nonsensical to contend that the distinction between smoke and fire might someday vanish, that the gap between the word *sun* and the massive orb of gas at the center of our solar system might blur, or that the difference between 1 and 0 might converge into a fog of 0.5s. Yet just such an absurdity is entailed by the idea that the online and offline can no longer be separated. At issue are myriad forms of social practice, including meaning-making, that move within digital contexts but also across the gap between online and offline – from skates on an avatar's feet to embodied views across a virtual landscape, from a friendship in the actual world altered though a text message to a friendship on Facebook between two people who never physically meet.

At a broader level, the online and offline stand in an 'inter-indexical relationship' (Inoue 2003: 327); it is through the general gap between them that the emerging socialities so in need of anthropological investigation are taking form. As online socialities grow in number, size, and genre, the density and rapidity of these digital transactions across this inter-indexical gap between online and offline increase exponentially. Like a pointillist painting, if standing back it appears that the dots have blurred into brush strokes. But no matter how high the resolution, when one looks carefully one sees the discreteness of the dots, as well as the gaps of white space that allow them to convey meaning. This recalls how no matter how fast a computer becomes, no matter how quickly millions of 0s and 1s stream by, millions of gaps will stream by as well, for the computer's functioning depends on the gaps themselves. As noted in the introduction, the digital will exist (albeit in new forms) even in the context of quantum computing not strictly predicated on an opposition between 0s and 1s. This is because rethinking the digital involves recognizing its production through indexicality and the human experience of semiosis in spacetime (Munn 1986), not just through internet technologies per se. Even using a quantum computer, you would go online.

In setting out this idea of an anthropology that is digital by virtue of its attunement to indexicality, I do not mean to imply that online meaning-making is

exclusively indexical in character. At issue is that indexicality provides an empirically accurate and conceptually rich perspective from which to rethink digital anthropology. While a detailed examination of semiotic theory lies beyond the scope of this chapter, we can note in passing that symbols and icons, the other two types of sign in Peirce's analysis, are ubiquitous in online contexts (consider the icons that are so are central to computing cultures). Nor need we limit ourselves to a Peircean approach to language and meaning. But while not all dimensions of culture are like language, this particular aspect of language – the centrality of indexicality to meaning-making – is more indicative of digital culture than the structural-grammatical dimensions of language that 'cannot really serve as a model for other aspects of culture' (Silverstein 1976: 12). What I am suggesting is first, that for digital anthropology to make sense it must mean more than just the study of things you plug in or even the study of internet-mediated sociality, and second, that one promising avenue in this regard involves drawing from the digital's indexical entailments of pointing and constitutive gaps. These entailments have theoretical consequences that suggest research questions and lines of inquiry. They also have important consequences for method, the topic to which I now turn.

### Participant observation as the core method for digital anthropology

Digital anthropology typically implies 'doing ethnography'. But ethnography is not a method; it is the written product of a set of methods, as the suffix -*graphy* (to write) indicates. Rethinking digital anthropology must therefore address not just (1) the theoretical frameworks we employ and (2) the socialities we study, but also (3) how we engage in the research itself.

Ethnographers of digital cultures work in a dizzying range of fieldsites (and are not always anthropologists, since ethnographic methods have a long history in sociology and other disciplines). One of the greatest virtues of ethnographic methods is that researchers can adapt them to the contexts of particular fieldsites. Ethnographic research online does not differ in this regard. However, this flexibility is not boundless. A serious threat to the rigor and legitimacy of digital anthropology is when online researchers claim to have 'done an ethnography' when they conducted interviews in isolation, paired at most with the analysis of online texts, images, and video. Characterizing such research as ethnographic is misleading because participant observation is the core method of any ethnographic research project. The reason for this is that methods like interviews and the analysis of online texts, images, and video are *elicitation* methods. They allow interlocutors to speak retrospectively about their practices and beliefs, as well as speculate about the future. But ethnographers combine elicitation methods (like interviews and focus groups) with participant observation, which, as a method not predicated on elicitation, allows us to study the differences between what people say they do and what they do.

The problem with elicitation methods in isolation is that this methodological choice surreptitiously encodes a theoretical presumption that culture is present

to consciousness. It is predicated on the belief that culture is something in people's heads: a set of viewpoints that an interviewee can tell the researcher or post on a social network site, to appear later as an authoritative block quotation in the published account. Of course, persons can often be eloquent interpreters of their cultures; as a result, interviews should be part of any ethnographic project. But what interviews and other elicitation methods can never reveal are the things we cannot articulate, even to ourselves. Obvious cases of this include things that are repressed or unconscious, an insight dating back to Freud. Language is another example. Consider a basic phonological rule like assimilation, where for instance the *n* in *inconceivable* becomes *m* in *impossible* because *p* is a bilabial plosive (made with the lips) and the nasal *n* assimilates to this place of articulation. Few English speakers could describe this rule in an interview, even though they use the rule hundreds of times a day in the flow of everyday speech.

Such aspects of culture are by no means limited to language and the psyche. In particular, theorists of practice have worked to show how much of everyday social action involves tacit knowledge. Pierre Bourdieu emphasized this point when critiquing anthropologists who speak of 'mapping' a culture: 'it is the analogy which occurs to an outsider who has to find his way around in a foreign landscape' (Bourdieu 1977: 3). Take any route you traverse as part of your daily routine. If there is a staircase in your home or office, do you know how many stairs are there? The peril is to seek a representation of such tacit knowledge via an interview, where the informant's discourse is shaped by the framework of elicitation 'inevitably induced by any learned questioning' (Bourdieu 1977: 18).

If there is one thing that ethnographers have shown over the years, it is that 'what is essential *goes without saying because it comes without saying*: the tradition is silent, not least about itself as a tradition' (Bourdieu 1977: 167, emphasis in original). When ethnographers ask interview questions, they obtain representations of social practice. Representations are certainly social facts (Rabinow 1986) and have cultural effects. But they cannot be conflated with culture as a whole. If you ask someone 'what does friendship mean to you?' you will get a representation of what that person takes friendship to be. That representation is socially consequential; it is embedded in (and influences) a cultural context. However, that elicited representation is not identical to friendship in practice.

The methodological contribution of participant observation is that it provides ethnographers insight into practices and meanings as they unfold. It also allows for obtaining non-elicited data – conversations as they occur, but also activities, embodiments, movements though space, and built environments. For instance, in Part 2 I observed Second Life residents teaching each other how to skate on a virtual ice rink, in part by learning how to skate myself. Had I just walked up to an avatar and asked out of the blue, 'how do you learn in Second Life?' I would have likely received a formal response emphasizing things traditionally seen as learning-related; rich detail about a group of avatars learning to skate would not have been in the offing. Participant observation allows researchers to identify cultural practices and beliefs of which they were unaware during the process of research design.

Some persons terming themselves ethnographers may not wish to hear this. On more than one occasion I have counseled scholars who claim to be 'doing ethnography' but use interviews in isolation – in one case, because a colleague told them participant observation would take too long. This does not mean that the norm of the fieldwork year is inviolable; rather, it means that participant observation is never rapid: 'not unlike learning another language, such inquiry requires time and patience. There are no shortcuts' (Rosaldo 1989: 25). You cannot become fluent in a new language overnight, or even in a month or two. Similarly, someone claiming to have conducted ethnographic research in a week or even a month is mischaracterizing their work unless it is part of a more long-term engagement. There is no way they could have *become known to a community* and participated in its everyday practices in such a time frame.

## Conclusion: time and imagination

When I consider the exciting possibilities that inhere in rethinking digital anthropology, I find my mind wandering back to an image. A webpage, to be precise, one that has haunted me for years despite its apparent triviality. I think – of all things! – about the original McDonald's home page from 1996, from the early days of the internet's ascendance.[8] Despite its simplicity from a contemporary perspective (basically, the Golden Arches logo on a red background), the webpage represented the best that a major corporation could offer in terms of web presence; it likely involved considerable expense to design and implement.

When I think about what this website represents, I compare it to some contemporary phenomenon like Twitter. Compared to Second Life or many other online phenomena, the basic concept behind Twitter is simple. That simplicity allowed, for instance, former President Trump to disseminate untruths to broad publics. But a website based on the core conceit of Twitter – text messages 280 characters in length – could be implemented with only a dial-up connection, using a 1990s-era computer. In fact, there is no technological reason why something like Twitter could not have existed in 1996, alongside that original McDonald's home page.

Why did Twitter not exist in 1996, coming into being only ten years later? It was not a limit of technology; it was a limit of imagination. In the early years of widespread web connectivity, we did not yet realize the affordances of the technology in question.

From online worlds to wearables, from autonomous vehicles to AI, our digital landscapes in the late 2010s are analogous to that McDonald's web page from 1996. Current uses of these technologies push against the horizon of the familiar: it could not be otherwise. Transformative uses of these technologies certainly exist, but at present are no more conceivable than the idea of a Twitter feed would have been to a user of the McDonald's website in 1996, despite its feasibility from a technical standpoint. It is a matter of time and imagination.

Leach concluded 'Rethinking Anthropology' by emphasizing:

> I believe that we social anthropologists are like the mediaeval Ptolemaic astronomers; we spend our time trying to fit the facts of the objective world

into the framework of a set of concepts which have been developed a priori instead of from observation.

(Leach 1961: 26)

Leach was frustrated that social researchers often fail to *listen* to the empirical realities they ostensibly study. Despite their best intentions, we often fall back on folk theories and preconceived notions from our own cultural backgrounds. This is particularly the case when speaking about the future. The problem with the future is that there is no way to research it. It is the domain of the science fiction author and the entrepreneur on the make. Social scientists study the past and many of them, including ethnographers, study the present; in this chapter I have worked to demonstrate how digital anthropology might contribute to studying this emergent present. But if we see that contribution as showing that the online and offline are no longer separate, we will have substituted a mistaken teleology for empirical reality: we will remain in a Ptolemaic frame of mind.

The physical and digital are not blurring, nor are they pulling apart from one another. Such spatial metaphors of proximity and movement mischaracterize the semiotic and material interchanges that forge them both. Digital anthropology as a framework can provide tools to avoid this conceptual cul-de-sac – via a theoretical attention to the indexical relationships that link the online and offline *through similitude and difference* and by a methodological focus on participant observation.

Social researchers are constantly asked to engage in the work of forecasting or 'trending' to predict what will happen with regard to new technologies. But lacking access to a time machine and confronted by the recurring failures of the most savvy futurists, our only real explanatory power likes in investigating the past and present. Digital anthropology can play an important role in this regard, but for this to happen it must stand for more than ethnography online. Time is a necessity for digital anthropology – you cannot do ethnographic research over a weekend. But *imagination* is also needed. Rethinking digital anthropology will fall short if it does not include imagining what 'digital' might mean and what its consequences might be for social inquiry.

## Notes

I thank Daniel Miller and Heather Horst for their encouragement to write the original version of this chapter, and to Paul Manning for their helpful comments. I thank Haidy Geismar and Hannah Knox for their support of this revised version.

1  In this chapter I treat *actual*, *physical*, and *offline* and *virtual* and *online* as rough synonyms. It is possible to craft frameworks in which these terms differ, but it is a flawed folk theory of language that the mere existence of multiple lexemes entails multiple corresponding entities in the world.

2  I have briefly discussed these meanings of the digital elsewhere with regard to embodiment (Boellstorff 2011: 514–515).

3  For reviews of the history of digital anthropological work, see, inter alia, Boellstorff (2015: chap. 2); Boellstorff, Nardi, Pearce and Taylor (2012, chap. 2) Coleman (2010) and Pertierra (2018).

4  For example Curtis ([1992] 1997), Kendall (2002), and Morningstar and Farmer (1991).

5  Even the varied post-Saussurean approaches to language provide for the constitutive role of gaps (and movement across those gaps). This includes notions of iteration which 'contains *in itself* the discrepancy of a difference that constitutes it as iteration' (Derrida 1988: 53, emphasis in original).

6  For a detailed theoretical and methodological discussion of this research, see Boellstorff (2015) and Boellstorff, Nardi, Pearce and Taylor (2012).

7  What was likely the first contemporary virtual world originated in two hands pointing at each other while superimposed on a computer screen (Krueger 1983; see Boellstorff 2015: 42–47).

8  You can see this webpage at http://web.archive.org/web/19961221230104/http:/www.mcdonalds.com/.

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# Part II

# Socializing digital anthropology