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# COMPUTERS IN/AND ANTHROPOLOGY

## The Poetics and Politics of Digitization

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### **Introduction**

*The Use of Computers in Anthropology* (Hymes 1965) is a massive volume stemming from a 1962 Wenner-Gren symposium held in their Austrian castle. The book is rich with diverse and provocative articles detailing early experiences—experiments, even—with computers among anthropologists.<sup>1</sup> The collection is headed by an un-sourced quote from Claude Levi-Strauss: “. . . the fundamental requirement of anthropology,” this epigraph reads, “is that it begin with a personal relation and end with a personal experience, but . . . in between there is room for plenty of computers” (Hymes 1965, 5).

Both volume and epigraph seem worth quoting at the opening of a chapter for a companion to digital ethnography—for substantive reasons as well as more theoretical or methodological reasons. Substantively, the quote and the volume itself point to the capacious, plentiful “room” in which anthropology finds itself in the company of computers—in 1965, 2015, and any time in between and beyond. There is lots of room in anthropology—digital and otherwise—for lots of computational devices, and each of these multitudes can be put into lots of configurations. It is once again, as we will argue here, a time (1965, 2015, 2065 . . .) ripe for experimentation, when anthropologists have ample tools and ample spaces in which to work and play with them, toward multiple theoretical and practical ends. And they have ample opportunity and need to do so, we will also argue, within new forms of collaboration.

The quote and volume also reference a formal, structural, or infrastructural concern, which in turn points to an important difference between 1962 as a time of “the computer,” and the digital anthropologies of 2015 and beyond. The Levi-Strauss quote—and it is clearly a quote, with quotation marks and ellipses—is un-sourced. Was it spoken or written? When, where,

to whom, in what context? That data—or more accurately, that metadata—is not provided in the 1965 volume on anthropology, computers, and the emergent field of new data, methods, and theories. A quick and easy search of the Internet in 2015, however, turns up . . . only a reference to this very 1965 volume, in an informative series on the history of computers in anthropology by Nick Seaver, written for the important, long-running blog-experiment in digital anthropology *Savage Minds* (2014). We learn a great deal about the long history of computers in/and anthropology there (well worth reading but which we cannot recap here), but nothing further about the Levi-Strauss utterance.

This Levi-Strauss quote points to important differences marking the contemporary period in this history of computers in/and anthropology, as well as some enduring features. What we would today call the *provenance* of the Levi-Strauss quote is lost in the 1965 publication. The individual articles in that volume present fascinating accounts of early anthropological experiments with computers, in some cases complete with elaborate fold-outs of machine diagrams and programming matrices, along with finely crafted summaries of the wide-ranging and at times probably heated discussions that took place in 1962—but not actual transcripts that would allow us now, in their future, to attribute and re-consider exact phrasings, or to re-interpret the interactions, exchanges, and movements that occurred between the presentations. The socio-technical infrastructure that could make that kind of data archiving and sharing possible, and thus desirable, both for anthropological work and for anthropology itself, is only now becoming available.

So at this very different infrastructural moment in the human sciences, we can nevertheless reiterate Dell Hymes' earlier conviction that “the computer” offers an opportunity for “heightening the quality of work” in anthropology. As it was then, it is now an opportunity that demands “increased attention” to two things. The first is “the logic and practice of quantitative and qualitative analysis,” the second “the forms of cooperation and integration needed to make our stores of data systematic, comparable, accessible to each other and to theory . . . The story of the computer in anthropology will be the story of how these two demands are met” (Hymes 1965, 31).

It is a remarkable and enduring insight. We continue the story here, heeding the same call to attention but now shifting the demand away from how “the computer” of 1962 (when “the” IBM 790 or 7090 was indeed becoming increasingly common, but nevertheless remained “the” singular machine on a small number of major campuses) asked anthropologists to rethink their forms of analysis and cooperation, and turning to the more multiple, omnipresent, and interlaced digital technologies of the contemporary moment—no doubt an even more plentiful situation than Levi-Strauss might have imagined, but a situation calling, still, for attention to how anthropology might be rewritten in this roomy space filled with new digital technologies, new logics and practices of analysis, and, perhaps most importantly, new forms of data. Paying attention now means remaining open to new forms of theory and new ways to collaborate. It also means re-scripting, rewriting, or redesigning the digital platforms, or cyberinfrastructure, to support those new collaborations and theories.

Digital anthropology has taken and continues to take many forms: writing experiments in the form of blogs (e.g. *Savage Minds*<sup>2</sup>), video mashups (e.g. the work of Michael Wesch<sup>3</sup>), online ethnographies as well as ethnographies of the online (e.g. Chris Kelty,<sup>4</sup> Gabriella Coleman,<sup>5</sup> and Tom Boellstorff<sup>6</sup>), multimedia-enhanced journal portals (e.g. culanth.org<sup>7</sup>), new publishing collectives (e.g. limn<sup>8</sup>), and various forms of hypertexts and “enhanced media” projects (e.g. Povinelli and Cho 2012). All of these writing experiments are enabled in part by new forms of technical writing, new codes and languages from XML to WordPress, tools that are written *in* or *into* rather than simply on digital media. Such experiments in digital

anthropology are amply and ably covered elsewhere, including in this volume, so we do not review them in further detail here.

Most of these, and similar digital anthropology projects, important and innovative as they might be, do not call for redesign of digital platforms—the rewriting of what we call the digital form. They can thrive quite well within the current, complex digital ecology. They also remain, by and large, in the mode of the individual anthropologist that has been the dominant methodological form for much of the history of the discipline.

Our focus here is on the need to experiment with digital form in ways that promise to rewrite ethnography and the ethnographic archive, entailing the redesign of the digital infrastructure on which they will exist. We look forward to digital anthropology projects that, by re-animating the ethnographic archive in a variety of ways, will also demand and enable new forms of collaboration among anthropologists. They will also enable and leverage new, more collaborative relations between anthropologists and other researchers not only in the human sciences, but also in computer, information, and data sciences as well.

### ***Writing Cultural Critique, Digitally***

To put that somewhat differently: the distributed digital technologies of the early twenty-first century *reiterate* the structural—and therefore also the experimental—conditions enabled by the mainframe computer of the 1960s, rather than simply repeat them. Those conditions are: a renewed attention to and questioning of what anthropological theory is and how it gets made, a renewed attention to and questioning of the forms (technical and textual infrastructures) that shape and carry anthropological theory, and a renewed possibility of and need for new forms of collaboration. Similarly, important experiments in digital anthropology also reiterate the arguments and proposals put forward in the mid-1980s signified by the publication of *Writing Culture* (Clifford and Marcus 1986) and *Anthropology as Cultural Critique* (Marcus and Fischer 1986), which we combine here under the heading of *Writing Cultural Critique*. The *Writing Cultural Critique* tradition in cultural anthropology attends to the implications and limits of form—a poetics and politics of ethnography powered, in large part, by poststructuralist understandings of language developed through new exchanges with literary theorists, semioticians, philosophers, and others in the humanities from the 1980s onward.

One thread of the critique focused on the singularity and authority of the ethnographic voice in writing about other peoples, often with considerably less privilege or power. Another thread of the critique focused on time—the way both rhetorical conventions and the material form of the published book or article froze the people being represented in history, restricting recognition of both the ongoing development and the limits of ethnographic analysis of that development. The ethnographic monograph or article literally became the end of analysis. A third thread focused on problems of scale, calling for new forms to write the ways individual cultural actors embody, reproduce, and iterate the nested, often contradictory, cultural and political economic systems they inhabit and which, in turn, inhabit them.

Digital anthropology provides opportunities to reiterate and transform all of these threads of the *Writing Cultural Critique* of ethnographic form, and thus extend the tradition of experimentation they have engendered. The critical and experimental promise of digital anthropology, in our view, lies largely in the potential to enable more collaborative and open-ended ethnographic work/writing—across time, space, generations, and “cultures.”

This next generation of digital platforms in anthropology can re-purpose work over the last few decades in *Writing Cultural Critique*, work that foregrounded how cultural critique, innovation, and change emerge, in the world and in the discipline alike, while

foregrounding the poetic and political force of the genre forms through which culture is expressed and understood. This now-extensive literature in cultural anthropology has drawn on literary and language theory to address the significance of genre forms both in everyday enactment of culture in different settings, and in scholarly representations of culture.

As the “computer form” opened new possibilities for anthropology in the 1960s, visible in the projects of the Hymes volume, the new digital forms of contemporary anthropology platforms can re-purpose anthropological writing into new experimental veins in the twenty-first century. In order to do so, however, anthropologists will have to instantiate—in digital form—elements of the language ideology on which the 1980s legacy systems of anthropology drew. In other words, we have to read digital forms and infrastructures “against the grain,” and thus work to rewrite and redesign them. The “computer form” of the 1960s opened up new possibilities for data collection, its analysis, and for collaboration; it also harbored a language ideology that assumed the unmediated representation of pre-existing stable forms, through terms that were transparent and fully present to the ethnographer and ethnographic subject. The computer form meshed beautifully with the pre-Geertzian 1960s cultural anthropology of the Hymes volume, in which “interpretation” has only two brief index entries. Decades of developments in computer, data, and web sciences have mostly solidified such a code-centric language ideology, in large part through increasingly elaborate yet precise ontologies (sets of terms with definitive uses) used in projects of “knowledge representation.”

Poststructural, anthropological understandings of language, meaning, and culture are still at odds, then, with the language ideologies or assumptions that persist in most digital (“information” or “data”) infrastructure. Digital “tools for humanities work have evolved considerably in the last decade,” notes Johanna Drucker, but their “epistemological foundations and fundamental values are at odds with, or even hostile to, the humanities . . . because of the very assumptions on which they are designed: that objects of knowledge can be understood as self-identical, self-evident, ahistorical, and autonomous” (Drucker 2012, 85–6).

In other words, there is a politics to the “digital form,” but the form can always be read “against the grain” and thus—partially, iteratively—rewritten. Through such efforts, today’s “digital forms” can open up new possibilities for re-coding an information infrastructure that can harbor a language ideology more attuned to current understandings of both language and anthropology, in which sense disseminates and coalesces from the differences populating the system, from the changing relations by which those “differences make a difference,” and from the absences, limits, and aporias that configured the parameters of the system and its operation in ways that may not be fully assayable, but can be experimented with—worked and played with—productively and collaboratively.

This is where digital anthropology theory and practice could orient the development of new digital infrastructure that is “deviously designed,” as Lindsay Poirier phrases it, “leveraged . . . in ways that create tensions against its logics,” which it must simultaneously retain (Poirier 2015). We continue this chapter by describing our efforts to develop such “devious” digital infrastructure, the Platform for Experimental Collaborative Ethnography (PECE<sup>9</sup>), and the lessons learned as a result about both anthropology and digital infrastructure, and how it might support new forms of collaborative inquiry, data production and sharing, and similar innovations within and across diverse research fields.

## From Open Access to Open Data

Digital forms in contemporary anthropology are generally more “open” than their predecessor “computer form” of the 1960s. The proliferation of various kinds of open access projects—blogs,

websites, and journals—is an exciting development and has certainly contributed to a sense of new possibilities in digital anthropology. The legal copyright form and similar forms of digital rights management have been the most significant impediment, and Creative Commons or other “copyleft” licensing forms have been the most important solutions. Combined with readily available open source programs such as Wordpress or Open Journal Systems, that need no fundamental technical reconfiguration, multiple new anthropologies are open and available through this “front end” of digital anthropology platforms.

Opening up the “back end” of digital anthropology—where our data are first collected, produced, and analyzed in the form of fieldnotes, interviews, collected documents, photographs, and so on—is a different challenge and continues to face numerous obstacles, including technical ones. Working through those challenges and around those obstacles has been a primary motivation for developing the open source (Drupal-based) digital platform, the PECE, which supports multi-sited, cross-scale ethnographic and historical research. For PECE to realize its main goals—providing a place to digitally archive and share primary data generated by anthropologists and other empirical humanities scholars, facilitating analytic collaboration that values difference and open-endedness, and encouraging experimentation with diverse modes of publication—it both takes advantage of the capacities of the digital form, and takes on their “devious” reforming and redesign. We describe several aspects of this double strategy below.

The PECE project has been informed in part by our own fieldwork among biomedical, public health, and environmental scientists, for whom the ability to generate new quantities and kinds of data, and to openly exchange and recombine that data, has been transformative for their own work, and for their disciplines. Yet even these researchers, who work primarily with quantitative data that more readily conform to the epistemological foundations and assumptions of the digital form as discussed above, are still engaged in constant redesign of their own digital infrastructure to facilitate their analyses and collaboration. Through developing PECE we have learned how much more difficult this is for qualitative data, which require new technical and cultural protocols to encourage data sharing.

Every day, the world’s ethnographic archive increases, as everyone from anthropology graduate students to field elders orchestrate interviews, write up notes from a conversation or experience, photograph or video an encounter with a new person, place, or thing, in any of thousands of places around the planet, concerning anything from a virus to “neoliberalism.” Yet even when digitized (which still remains relatively rare), this archive is fragmented, individualized, and inaccessible, and is often closely guarded (“my data”) until parts of it might finally be released, in thoroughly cooked and digested form only, in formal publication. The logics here are as evident as they are understandable, and we recognize that large-scale, widespread change in anthropology’s own research culture is unlikely to occur easily and even, in some cases, is undesirable. However, the opportunities for experimentation here seem vital to us, and PECE tries to affect a partial shift of anthropology’s research culture by easing some of the technical challenges of data sharing and analysis.

The basic unit or “data object” in PECE is an *artifact*: a text, image, audio or video file representing anything from an interview or fieldnote, to “gray” or found documents and objects, to published journal articles. Any and all such data objects must be “modeled,” meaning that they need to have written into them the kinds of metadata that would allow a researcher to characterize the provenance—source, history, context—of any ethnographic object (like the Levi-Strauss utterance regarding computers mentioned above), and that would allow for other researchers to discover those objects. Consent, permissions, and other ethico-legal data must also be delineated and made part of the data object, and

this often requires rewriting digital tools developed for the natural sciences, where such issues have been less formative. Some digital infrastructure (Omeka,<sup>10</sup> Mukurtu,<sup>11</sup> or the Reciprocal Research Network,<sup>12</sup> for example) now has some capacities such as these, but these kinds of experiments need to be further multiplied and extended if the world's ever-increasing wealth of ethnographic data is to exist as more of a collective rather than an individualized entity.

### **Interpretation and Annotation as Data in a Feverish Archive**

Data in the natural sciences tend to retain stable identities, even if they are complexified and enriched by new forms of metadata. They conform to archival logics in their strictest sense, compiling into an authorized, authoritative, and unchanging foundation of reference. Digital anthropology needs this capacity but it also needs something else: the ability to supplement or augment data through interpretation, in a way that preserves the “original” data while, simultaneously and paradoxically, creating new data. The archives for digital anthropologies need to be the vital, always-emergent and transforming archives (Derrida 1998)—originary and authorizing while always open to new “impressions” and destabilizations.

Here too, designing PECE has taught us both how easy the “digital form” makes it to annotate a data object, but also how that digital form limits interpretive possibilities in particular ways, calling for “devious” rewriting. The need and desire to explain texts and other media are enabled by a growing number of digital modules and applications, many of which were developed specifically for digital humanities platforms, but almost all of these still retain the archival logics of the digital platforms of the natural sciences. “Data” remain data and are privileged as foundational, while comments, annotations, and other forms of interpretation remain a distinct object within the digital domain, linked to data but not handled or treated as data themselves. PECE is rewriting the digital protocols to allow for and encourage a different kind of interpretive annotation, one that acknowledges the interlacing of interpretation and data, reading and writing—that data are only “data” when they are read, that they can always be re-read and thus, re-data-ed.

A PECE “collaborative analytic” credits this creative act of reading in several ways and toward several effects. Unlike almost all comment or annotation functions, which essentially give users a blank slate, PECE uses what it calls “light structures” to create, in this case, “collaborative analytics” that prompt users with a series of questions developed for different types of data objects. These open-yet-closed structures—readers can still respond at any length, in any way, may skip questions entirely, and may also create questions of their own to be added to the light structure—function as tagged data fields for each response within a collaborative analytic. They store metadata about the creator and their interpretive habits, allowing the annotation as a whole or in parts to be treated as both interpretation of existing data, to which it remains attached, and as new data in its own right, and thus available in a structured way for recombination with other collaborative analytics attached to other materials, always open to further re-interpretation in the future.

This allows researchers to see how other researchers have responded to particular questions in the collaborative analytic as they complete their own, and to pull together aggregations of question responses so that they can see the interpretations of many different researchers, and of many different artifacts, in one view. The intent is double: to expose interpretive analysis as an ongoing collaborative process that is constantly re-generating data, and to create, in the process, new reflexive ethnographic insights about the interpretive patterns and genealogies of ethnographers themselves.

PECE thus leverages the affinities for data archiving and sharing, collaboration, and openness-to-the-future (or differential reproduction) that the digital form promises even as it also, in part, resists. This is a matter of engaging the language ideologies in play, working them to different effect.

### **Collaboration and Explanatory Pluralism**

An admirable aspiration toward collaborative anthropology is (again) growing (see e.g. Lassiter 2005), and the capaciousness of the digital form as well as its wide accessibility is conducive to the growth of collaborative digital anthropology. The Digital Himalaya project, for example, began as an effort to digitize a few extant ethnographic collections and relatively quickly turned into a noteworthy and ongoing collaboration among anthropologists and their interlocutors alike, generating a wealth of newly digitized material, including journal articles long out of print or otherwise inaccessible, as well as other more recent “born digital” data (Turin 2011).

The digital form itself, however, does not always ensure collaborative effects, which require some redesign of digital tools and infrastructure to facilitate experimental collaborations. The high costs of entry (in terms of both overall production and operation, but also in terms of aesthetically alluring but difficult and daunting interfaces) that are imposed by some digital platforms can, especially in combination with the enduring figure of the solo virtuoso ethnographer, can render group efforts collaborative in name only. PECE works to keep collaborative practices from either being too difficult or over-determined and to do this it has played with the digital form to produce and steward “explanatory pluralism.”

PECE’s design structure seeks to leverage difference—different artifacts and data, different annotations from different researchers, different explanatory paradigms—into insight, through a variety of display mechanisms. These mechanisms include artifacts-with-annotations, timelines, and “collages” of mixed materials at different stages of analysis, from different researchers, focused on different issues, levels, or aspects. New understandings of an event such as the Fukushima disaster, for example, are generated not through their conformity with items that might be found in a Chernobyl data set, but by foregrounding through juxtaposition their differences on multiple registers, across scales, or within different interpretive frameworks. The platform is designed not to solely develop a concise and consistent view of an object, phenomenon, or problematic situation, but rather to produce and explore multiple views of such phenomena. PECE seeks to leverage for anthropology the kinds of “explanatory pluralism” that feminist philosopher and historian of biology Evelyn Fox Keller argues “represent[s] our best chance of coming to terms” with “inherently complex” processes and phenomena such as biological development (Keller 2002, 300).

PECE helps address the global challenge of creating research infrastructure to support deeply interdisciplinary and international research that addresses complex problems such as global environmental health<sup>13</sup> and disaster prevention, response, and recovery.<sup>14</sup> The multi-site, multi-scale, multi-interpretive dimensions of such problems require not so much the integration, but the simultaneous presentation and juxtaposition of diverse forms of data and analyses from the humanities, social and natural sciences, and engineering. This requires robust digital infrastructure for humanities researchers, designed to be interoperable with research infrastructure developed for other fields.

Digital anthropology needs infrastructure that reflects, enacts, or embodies poststructural theories of language, and postcolonial and feminist understanding of the politics of language. This approach acknowledges the ways power is woven into language, common sense, and

communicative practice, and demands real, ongoing collaboration. When languages—and the digital systems deploying language—are understood as an open system of disseminating meanings that are labile, ambivalent, dynamic, and transformative, allowing researchers to encounter the continual layering of different interpretations from multiple collaborators, this system enables the way to robust, ever-“thicker” ethnographic knowledge.

It is not only ethnographers who, immersed in dense information flows laced with conflicts of interpretation and interests, can benefit from improved digital means for deploying and developing their hermeneutic sensibilities, and for growing collaborations within our own discipline. Digital anthropology platforms such as PECE can assist the collaborator-interlocutors in their “home” domains, not only in carrying out concrete tasks, but also for thinking through what tasks should be carried out, how they should be prioritized, and how problem identification both directs practical work, and quickly makes alternative pathways invisible. PECE provides a space to experiment with and examine different forms of collaboration and thus can result in research findings with clear relevance to capacity-building efforts in various practitioner communities.

### **Valuing Noise and Kaleidoscopic Logics**

The contemporary—globalized, high-tech, anthropocenic—world generates complex risks and problems at an unprecedented pace. This phenomenon calls for new levels of operational coordination within and across disciplines, and between researchers and practical decision-makers working at many scales (local to transnational). Given the scientific, technical, and cultural complexity of contemporary problems, there is a special need for anthropology’s ability to cultivate and sustain “explanatory pluralism,” different ways of thinking about problems. Researchers thus need to develop modes of work—and supporting infrastructure—that enable deep and complex collaborations of different kinds, and the “explanatory pluralism” of which they are capable. However, this is where another contradiction of the digital form becomes evident, the last one we will consider here, involving the deep play between, or imbrication of, signal and noise.

The scope of most digital anthropology infrastructure, even that for cultural heritage projects, is almost always limited in advance: data on the global textile trade, for example, is likely to have no place in a digital platform documenting and analyzing indigenous Indian or Andean weaving. Ethnographers, however—especially those in the tradition of *Writing Cultural Critique*—have a long history of fieldwork methodologies that insist they attend to more of the world than they think they are supposed to, that insist they collect more data on more people and things and their relationships than they think they need. Digital tools can assist this “deliberate attempt to generate more data than the investigator is aware of at the time of collection,” as Marilyn Strathern describes the discipline’s signature “open-ended, non-linear methods of data collection” (Strathern 2004, 5–6). PECE facilitates projects with ever-expanding and evolving groups of collaborators, who contribute different data sets and different interpretive habits and goals. PECE allows for and encourages the continual addition of new types of data, representing new topics and domains, not previously defined as significant or pertinent. In its capaciousness, the digital form can easily handle these multiple forms of data, multiple interpretive annotations, and multiple explanatory frames—even if some “devious” design is necessary to more fully realize these capacities or affinities of the digital form.

Even thus pluralized, however, what we have called the dominant language ideology of the digital form—its poetics and politics—still privileges integration, synthesis, and similar forms of sense-making that are notoriously inept at acknowledging what it thereby marginalizes or

excludes. The digital form tends to cancel or filter out the “noise” from which all information systems want to extract the “signal” of truth and established meaning. Existing digital infrastructure developed for the natural sciences privileges identification, equation, integration, selection, simplification, condensation, and synthesis as primary modes of analysis; becoming part of the “language ideology” that carries over into digital anthropology projects as well.

PECE has been designed to work against this logic, although here we must admit to being at the experimental limit of what it is possible to do. We are attempting to make PECE present a researcher, at various moments of the research process, with unexpected data or analysis from other researchers working in a different area. Someone researching the development of immunological theories of asthma, for example, might have their attention drawn to an interview with an atmospheric chemist who studies ozone levels in Houston. PECE tries to leverage or augment the differences that already populate the data, differences that already exist in greater quantities than any researcher knows what to do with, asking researchers to invent new analytics for something they had not expected.

As one strategy, PECE meshes the design principle of explanatory pluralism with the potentials of collage that have long animated ethnographies in the tradition of *Writing Cultural Critique*, aiming for what we call “kaleidoscopic logics” in which configurations of disparate elements are open to sudden change and shifts. Through a variety of display mechanisms, PECE’s design structure seeks to leverage difference—different artifacts and data, different annotations from different researchers, different explanatory paradigms—into unexpected insight. The goal is to use the affinities of digital media to “leave manifest the constructivist procedures of ethnographic knowledge,” as James Clifford has put it, “to avoid the portrayal of cultures as . . . worlds subject to a continuous explanatory discourse,” in part by always including “data not fully integrated within the work’s governing interpretation” (1981, 563–4).

For digital anthropology to do something like this, it will require computational advances that support open-ended, underdetermined engagement with digital content that enables (even encourages) drift and transmutation in the way content is identified and taken up in analysis. The reiteration of digital anthropology will thus also require new collaborations with data scientists and software designers. Not simply as experts, or “tool-builders,” or developers-for-hire, but as active co-inquirers who bring their “paraethnographic” curiosity and sensibilities to shared questions concerning the limits and possibilities of digital forms of writing (Holmes and Marcus 2006, 2008).

## Notes

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1 KF and MF thank Luis Felipe Murillo for his gift of this hardcover volume to them.

2 <http://savageminds.org/>

3 <http://mediatedcultures.net/michael-wesch/>

4 <http://kelty.org/>

5 <http://gabriellacoleman.org/>

6 <http://faculty.sites.uci.edu/boellstorff/>

7 <http://culanth.org>

8 <http://limn.it/>

9 <http://worldpece.org/>

10 <http://omeka.org/>

11 <http://mukurtu.org/>

12 [www.rrncommunity.org/](http://www.rrncommunity.org/)

13 [theasthmafiles.org](http://theasthmafiles.org)

14 [disaster-sts.org](http://disaster-sts.org)

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