

rationality is, of course, a disquieting paradox with which we are all uncannily familiar. Is it possible, I would ask, to found social and cultural understanding on such paradoxes? Or are we destined to evasion?

Though Jackson stresses the “betwixt and between” of what we articulate in binary terms, of what we can and cannot know (which he prefers to see as mystery rather than indomitable ignorance), he is haunted by our arrogant failure to acknowledge the fact—the power—of that mystery. He identifies nature as “the borderline between the worlds we know best and the worlds we know least, between the local spheres in which our speech and actions make a difference and the sphere that lie largely beyond our grasp, much as we wish it were otherwise” (pp. 152–153). We are driven to act, understand, and speak, he remarks, “even though we are constantly undone by what we do, confounded by what we think, and damned by what we say” (p. 153). His realism, his pessimism is tempered by our regenerative capacities. One of the paradoxes of power, he asserts, is “that the same forces that threaten one’s being—whether from within as libidinal energies or from without as natural elements—can, if harnessed and channeled, not only provide protection but generate and regenerate life” (p. 145). Like us, the poet, caught inevitably in a romanticism, however negated, can bear little reality.

Open and Free

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Two Bits: The Cultural Significance of Free Software. By Christopher M. Kelty. Durham, NC: Duke University Press, 2008.

The study of technology can no longer be segregated into a field of “science and technology studies”: technology impacts—directly or indirectly—most contemporary ethnographic projects. *Two Bits* is, in this sense, a landmark work. In tracing, as its subtitle indicates, “the cultural significance of Free Software,” the book shows how a cultural logic forged in specific contexts centered on software design has been “modulated” into other domains. This is a story of porous borders and portable discourses, a story that harmonizes with a wide range of studies of globalizing processes. *Two Bits* explores emergent rhetorics of openness and freedom with enormous significance across a dizzyingly wide scope of topics and concerns—from publishing to democratization, from intentionality to community. This book will be relevant to and will have a lasting impact on a range of fields of inquiry, including anthropology, sociology, and history, as well as science and technology studies, informatics, and organizational research.

The proximate ethnographic object of *Two Bits* is Free Software, “a set of practices for the distributed collaborative creation of software source code that is then made openly and freely available through a clever, unconventional use of copyright law” (p. 2). The book is composed of an introduction, nine chapters, and a conclusion. The introduction and first two chapters (both of which constitute pt. 1, “The Internet”), set out the analytical framework. Noting that “governance and control of the creation and dissemination of knowledge have changed considerably in the context of the Internet over the last thirty years” (p. 6), Kelty explores how “Free Software exemplifies this reorientation; it is not simply a technical pursuit but also the creation of a ‘public’” (p. 7). He engages primarily with public-sphere theorists such as Michael Warner and Charles Taylor and defines a recursive public as “a public that is vitally concerned with the material and practical maintenance and modification of the technical, legal, practical, and conceptual means of its own existence as a public; it is a collective independent of other forms of constituted power” (p. 3) whose infrastructure “constitutes . . . the identities of the participants as creative and autonomous individuals” (p. 7; see also pp. 28, 211, 290). These individuals are what Kelty terms “geeks.” Despite stating that this term is “meant to signal a mode of thinking and working, not an identity” (p. 35), in much of the book, it is clear that “geek” indicates a kind of personhood—so that, for instance, “geeks are vocal, loud, persistent, and loquacious” (p. 19). In chapter 2, Kelty traces how geeks are influenced by a range of “usable pasts” (p. 65). In particular, “geeks love allegories about the Protestant Reformation” (p. 66) for how they “allow geeks to make sense of the relationship” between the state, corporations, and other social actors (p. 67).

The five chapters making up part 2 of *Two Bits* trace a history of Free Software from the late 1950s to the late 1990s and sketch out what Kelty sees as five key components of Free Software as a social practice: “creating a movement, sharing source code, conceptualizing openness or open systems, writing copyright (and copyleft) licenses, and coordinating collaborations” (p. 97). These chapters show in fascinating detail how notions of Free Software and Open Source emerged through a range of quite parochial dilemmas about computer programming: primarily through Usenet mailing lists, e-mail, and the exchange of computer code, a discourse of openness and freedom emerged in a largely unintentional manner. Those involved in this history, however, typically paid careful attention to questions of law and copyright and explicitly discussed the economic, political, and social ramifications of their collaborations.

Along with the conclusion, the two chapters making up part 3 of *Two Bits*, “Modulations,” address how notions of Free Software modulated beyond questions of software. Kelty takes as two case studies of this modulation Connexions, “an open content repository of high-quality educational materials” (p. 249), and Creative Commons, a rethinking of notions of copyright and intellectual property. The Connexions case

predominates, and it is here that Kelty is most visible as a participant observer, exploring how everyday practices and concepts originating in Free Software modulate into other domains not directly concerned with computer programming.

It is important to note, while not part of the book as such, two innovative ways in which Kelty has worked to make *Two Bits* itself an experiment in modulation. The first is that Kelty persuaded his publisher to release the book as a free download over the Internet. Second, the Web site <http://www.twobits.net> provides not only access to the book but also a range of tools allowing readers to comment on and even modulate the book.

There are two important ways we can further modulate the arguments of *Two Bits* to extend its analytical purchase. The first further modulation concerns gender: *Two Bits* is an ethnography of men. Save for a single footnote admitting that the “question of gender plagues the topic of computer culture” (p. 318) and the recounting of a dinner at which the sole woman present became the object of heterosexual male geek desire (pp. 243–244), Kelty never asks after the ramifications of the fact that nearly every named social actor in the book is male. This is consequential because gender destabilizes the notion of “recursive public.” Aside from one brief footnote (p. 312), Kelty does not discuss how (as many feminist science and technology studies scholars have noted) the masculinist fantasy of a public as recursive—in Kelty’s words above, made up of “autonomous individuals”—is predicated on denying the domestic and private spheres that act as the relational ground on which this figure of a public ostensibly “independent of other forms of constituted power” takes form. As Stefan Helmreich, Carol Delaney, and others have shown, this denial of dependency, via a conflation of “public” and “male,” is founded in a male-dominated Protestant Reformation tradition in which a male God, as an autonomous individual, creates without female agency. Bringing a gendered perspective to *Two Bits* renders the adjective “recursive” superfluous, since social actors in all publics (not just those made by geeks involved in Free Software) are concerned with questions of constitution. It also suggests (in the light of work by scholars such as Nancy Fraser, whom Kelty does not cite) that all publics involve some form of disidentification with the feminized domesticities they depend on for discursive coherence.

Since all publics are recursive, a key question becomes, What is novel about the publics associated with Free Software? An answer to this question lies in a second further modulation of the argument of *Two Bits*, regarding the Internet as a field site. Nearly all of the ethnographic and historical data in the book involve online socialities (the only partial exceptions to this appear primarily in chaps. 1 and 9). Kelty nevertheless asserts at the outset that *Two Bits* “is multisited in the simple sense of having multiple sites at which these objects were investigated: Boston, Bangalore, Berlin, Houston. . . . it has not been a study of a single Free Software project distributed around the globe” (p. 19). The Internet is the field site—as elephant in the room. It is the true location of Kelty’s

study but is not acknowledged as a legitimate site of culture, even though most of the debates, collaborations, and relationships discussed in the book take place online—not in Boston, Berlin, or any other physical-world location. Unsurprisingly, Kelty’s portrayals of these physical-world sites are perfunctory, without social or political context—for instance, Kelty never discusses how they are all cities and never links them to nation-states. The argument of *Two Bits* can be so compelling even with these lacunae because the ethnographically thick and consequential field site is the Internet itself—the book is about “an international community of geeks brought together by their shared interest in the Internet” (p. 5). Modulating the argument of *Two Bits* so as to name this centrality of the Internet as field site (not just object), while attending to the well-documented centrality of masculinist cultural logics to the denial of the domestic that Kelty glosses as “recursion,” can only serve to expand the incision and significance of this work.

The Politics of Andean Head Taking

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Heads of State: Icons, Power and Politics in the Ancient and Modern Andes. By Denise Y. Arnold and Christine A. Hastorf. Walnut Creek, CA: Left Coast, 2008.

Until relatively recently, when describing the Pan-Andean tradition of collecting, curating, and caching human heads, many researchers have fallen into the well-worn trap of calling these heads “trophies.” This perception likely comes as much from a bias of equating the use, separation, and representation of body parts as identical to warfare and aggression as it does from the ease of using the term that many early researchers used. Current views of heads in Andean Nasca and Wari societies realize that these practices may be more complex than once thought, with temporal variations in demographic profile, associations with fertility and water, and their use as political objects (e.g., Kellner 2006; Tung 2007). Even so, a treatment of the wider meaning of this Pan-Andean occurrence is needed. In this way, Arnold and Hastorf’s *Heads of State* admirably uses Andean concepts of death and regeneration gleaned from ethnographic and ethnohistoric sources centered on heads to help explain Andean politics through time. Specifically, the authors try to tie the widespread use of heads to the creation, consolidation, and maintenance of political power in the Andes.

We are introduced to the backbone of the authors’ theoretical models in the beginning of the first chapter: the Qaqachakas of Bolivia, a rural highland subsistence group that engaged in serious fights over land in 2000. Arnold’s firsthand