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Free Software and the Politics of Sharing

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The study of software extends a long-standing anthropological interest in ‘the imponderabilia of actual life’ (Malinowski 1922: 20). From cell phones to social networking platforms, software is the mundane infrastructure of the daily lives of people worldwide. In the shape of search engines, mapping tools and databases, it is central to the reorganizing of media experiences (Bowker and Star 1999; Miller et al. 2005; Scholz 2008; Stalder and Mayer 2009). Court cases, pedagogical guidelines and polemics about sharing films, music and texts online suggest that much remains open-ended with respect to acceptable uses of digital media. Yet the politics of digital infrastructure is often elided by the assumption—or promise—of access on market terms (Ginsburg 2008).

Free software (FS) offers a cogent entry into struggles over meanings of sharing that, in turn, are key to contentions about the appropriate legal, economic and technical frameworks for digital media. From the web browser Mozilla Firefox to the blogging platform WordPress, free software contradicts the assumption that property rights are necessary as a motivation for making sophisticated and innovative digital media. Each FS project encompasses software code as well as a licence that ensures that all users have the right to study, modify, copy and redistribute the software. These rights make FS distinct from *proprietary software*, whose modification and distribution are restricted by copyright. FS enthusiasts are sensitive about seemingly arcane technical matters such as the choice of software platforms, legal licences, data formats and technological standards. In this chapter, I argue that, by studying how these putatively specialized issues matter in daily contexts, anthropologists can address questions about (political, legal, technological and societal) choices that are routinely muted in discussions of digital media.

I proceed by surveying how anthropologists have contributed to understanding the utopian premises of free software. I then rely on the lens of ethnography to make two related points: First, I explore accounts of FS developers to scrutinize the notion of ‘hacker ethic’ that has animated many studies of free and open-source software. Ethnographic accounts suggest that it is not only hackers’ passion for writing and sharing code but also pedagogical and legal apprenticeship that are key to making high-quality software through (almost entirely) unpaid voluntary work. On the

one hand, hackers may reshape media circulation; on the other hand, media change, and especially legal claims and technical contexts of software may create pressures for new forms of hacker engagement. Second, I argue that analyses of FS have so far highlighted a few strategic campaigns while obscuring the daily practices that sustain FS projects around the world. I expand the horizon of actors and practices that count in analyses of FS to address some dilemmas of participation in FS as a movement. Drawing on my ethnographic work in France in 2004–5, I focus on one group of girlfriends and wives of French FS activists who have employed their software and web-publishing skills to create an homage to the daily travails of free software development and advocacy. The final section of this chapter presents some preliminary thoughts of how struggles over software may matter to anthropologists interested in understanding the changing practices of media production, consumption and distribution.

The Utopian Challenges of Free Software

Since the late 1990s, the conceptual and legal frameworks of FS have served as a prime example for debates about the growth in commodification and regulation of the Internet. Critical legal scholars have posited FS as a challenge to corporate efforts to radically privatize the Internet and enforce a scarcity-based market in information through software protocols (Boyle 1996; Lessig 1999; Zittrain 2008). These critical accounts rest on conceptual dichotomies of free software to give salience to the wider legal and societal stakes in technological choices. Anthropologists have joined this debate by highlighting the hybrid nature of FS projects which often blur conceptual dichotomies (Kelty 2008): FS licences are often interpreted as a subversion of copyright and the ideology of romantic authorship, yet they rely on copyright to guarantee users' rights (Boyle 1996). Much of the rhetoric surrounding FS and 'the commons' shares with corporate capitalism and neoliberalism the notions of property, creativity and freedom (Coombe and Herman 2004).¹ While FS licences foster nonproprietary distribution of software, they do not prohibit commerce, and many FS contributors encourage and rely on the support of businesses, blurring the contrast between FS and market-oriented proprietary software production (Benkler 2006; Lessig 1999). Tracing some of these derivations, Kelty (2008) has argued that FS developers aim to reform, rather than overthrow, the contemporary constellation of markets, law and technical infrastructure that shape the meanings of software.

Large-scale FS projects, such as Debian, involve thousands of contributors who volunteer their time and skills. Economists and organizational theorists spearheaded research into the motivations of FS developers who put their time and energy into making software that then is given away (Ghosh 1998; Tirole and Lerner 2002; Von Hippel 2005). Early analyses suggested that developers are driven by a competition for prestige (Ghosh 1998; Raymond 2001) or career concerns (Tirole and Lerner

2002). In an influential contribution to this debate, political scientist Steven Weber argued that software is a 'network good'—that is its value increases as more people use it, as it is implemented on diverse platforms and as it becomes accepted as a standard (Weber 2004: 154). Online distribution of code enables many diverse actors to contribute to FS; even though only a small fraction of FS users contribute to software code, the gigantic user base encompasses many interested and skilled developers. Taking into account a range of motivations among FS developers, Kelty (2008) has nevertheless singled out developers' concern with access and modifiability of software. This concern makes it possible to understand software development as a form of collective engagement with existing technical, legal and market configurations. Kelty denotes this multiprong form of public engagement by the term *recursive public*: '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' (Kelty 2008: 3). By delineating the construct of a recursive public in FS and affiliated fields, Kelty's work seeks to expand assumptions about public speech and political engagement: he analyses practices of software development alongside more conventional activities of discussion, advocacy and voting.

FS has also catalyzed debates about the possibilities that the Internet offers for efficient and costless coordination. In particular, the development of the Linux kernel in the 1990s inspired research into how FS volunteers coordinate online to produce objects that, in many aspects, rival or even surpass industrially made professional software.² Here there are two main directions of research: The first one grounds FS in an ethics of access to information, freedom of expression and passionate pursuit of projects valued by peers, all emergent in the transnational communities of hackers and their daily practices (Himanen 2001; Jordan and Taylor 2004; Juris 2005). Hackers are here understood as tinkerers whose association is driven by digital networks. The second body of research epitomizes FS developers' practices as a model of decentralized, nonproprietary peer production made possible through digital networks (cf. Benkler 2006). While both of these approaches suggest that distributed invention rests on flexible networks, abundance of resources and individuals' freely choosing the projects in which they invest their time, their understandings of the agency afforded by the network may be overly limited. Distributed invention is not a novel phenomenon, nor is it unique to computing, nor is it dependent on the Internet (Ghosh 2005; Noyes 2009). As Noyes (2009) has argued, vernacular invention also depends on a network of people and things, yet is shaped by scarcity of resources, inflexibility of social ties and enforced inactivity that is often accompanied by boredom or frustration. Furthermore, some of these vernacular dimensions of the network are arguably at work among FS developers. For example, Born (1996) has found that computer researchers at IRCAM shared utopian ideals of collaborative authorship that subverted commodification, conventional copyright and the institutional power of IRCAM over their software. In practice, this sometimes entailed keeping

the software on a computer disconnected from IRCAM's network, obfuscating the software code by neglecting to write comments or documentation and in general 'preferring to accrue research capital by circulating [software] via the international network to other selected computer music and research centres' (Born 1996: 113). In this case, the ethic of distributed authorship went hand-in-hand with patronage.

Joining the discussion about the novelty of FS, anthropologists have foregrounded continuities in the free software ideals of freedom and individual power, which build upon long-standing liberal debates about selfhood, property, creativity, governance and the place of the market in social life (cf. Coleman 2010a; Coleman and Golub 2008; Kelty 2008; Leach, Nafus and Krieger 2009). As Miller and Horst point out in the introduction to this book, the analytic use of the term *liberalism* encompasses clashing interpretations of the term. While in the United States, invocations of liberalism often refer to left-wing social agendas, in Europe the term is more troubled and denotes laissez-faire economic policies and US right-wing social agendas. FS activists are aware of such clashing interpretations and skilfully use them to clarify their own objectives. One especially vibrant interpretation by a French activist argued that free software could 'tame the devouring and devastating flames of freedom in order to conserve their warmth. To counter liberal fanaticism with love of a calorific form [that] takes care of its embers and knows how to grapple with what it consumes' (Moreau 2005: 15, my translation). The metaphor of tempering the flames of freedom was here in explicit opposition to US president George W. Bush's celebrations of unfettered freedom.

Anthropological attention to continuities of liberal ideals in FS helps counter claims—common in the broader literature on free software—about epochal effects on human creativity and governance of specific technologies (i.e. the spread of the Internet) or laws (e.g. Digital Millennium Copyright Act). Yet, as Coleman points out, 'continuity of liberal traditions does not mean sameness' (Coleman 2004: 511). It may be helpful to remember that debates about the Internet in the 1990s questioned whether online connections were real and whether it was possible to commercialize online transactions (cf. Marcus 1996). So a reinvention of liberal tenets—in practices and languages of programming—may be a more apt term than continuity.

As explained in more detail below, FS developers are arguably the most invested among hackers in reformulating 'liberal social institutions, legal formulations and ethical precepts' (Coleman and Golub 2008: 267). Yet the possibilities for uniting technological practices and political objectives vary in time and place. Whereas in the United States, the priority may lay in claiming that software is a form of speech, in the European Union, the priority may be in finding national political allies to contest the common-sense link between software and technology. For another example, being an FS developer in France in the early 2000s meant having to read English on a daily basis. Insufficient knowledge of English prevented people from finding help in installing and using FS. For this reason, translating documentation was as important as coding or helping other people install FS on their computers. Furthermore,

translation encompassed not only technical documentation but also various practical manuals, opinions and answers on online forums. So being involved in global FS debates and projects also meant being thoroughly and constantly oriented towards French interlocutors (whether political parties, user associations or media) (Karanović 2008). Thus, the specifics of time and place are especially important for understanding how activists can rely on technical language and practices to pursue diverse political attachments. At the same time, many FS developers in France and elsewhere feel ambivalent about foregrounding the national contexts of their activities (cf. Takhteyev 2009). Regional and national inflections of FS then renew the currency of anthropological remark that activism around a global medium can simultaneously accomplish a variety of projects (cf. Ginsburg, Abu-Lughod and Larkin 2002).

FS ideals of free access and modifiability have been extended into other fields, notably in the free online encyclopaedia Wikipedia, open access journals such as Public Library of Science, music labels such as Magnatune and Jamendo and even social networking sites (Diaspora). Chris Kelty has been a particularly relentless interlocutor on the ways in which FS could serve as an inspiration for transforming anthropological publishing and teaching.³ Since 2005, the expansion of FS principles into other fields has been eclipsed by a trove of businesses that combine social networking features with possibilities for users to upload, share and comment on the networked content. Typically these platforms allow users to access the content free of charge, but media makers have no access to anything comparable to source code in software. For this reason, reuse and reworking of content on these platforms (sometimes known as Web 2.0) resemble FS only in a generic sense of sharing and deserve analysis in their own right. For example, video bloggers and other subgroups use YouTube to build social connections by exchanging videos and commenting on each other's work (Burgess 2008; cf. Jenkins 2006; Juhasz 2011; Lange 2008). At the same time, users' videos are also commodities that YouTube uses to serve marketers (Burgess and Green 2009; Gillespie 2010). Millions of Internet users around the world have become adept at downloading and uploading files on peer-to-peer networks, and some artists are embracing online circulation of their recordings free of charge (Future of Music Coalition 2007; Rodman and Vanderdonck 2006). Yet the insistence on users' rights to legally modify and redistribute, key to FS, seems to be an increasingly minor concern in the effusive growth of sharing and repurposing cultural forms online.

Rethinking the Hacker Ethic

The term *hackers* first came into wide circulation in the early 1980s, denoting tinkers who were enthusiastic about computers (Levy 1984; Turkle 1984). One of the most influential accounts was by journalist Steven Levy, who portrayed three cohorts

of hackers from the late 1950s to 1980s and argued that they shared a set of practices that he named the ‘hacker ethic’ (Levy 1984). The principles of the hacker ethic included sharing code, promoting decentralization, having access to computers and code in order to improve the code and using computers to improve the world. Levy’s account suggests that free software is a faithful incarnation of the hacker ethic. He describes the founder of free software, Richard Stallman, as ‘the last of the true hackers’ due to Stallman’s commitment to preserve the hacker ethic in computing despite the growing clout of business that restricted the sharing of software and disinterest among his peers who moved on to other ventures.

By the mid-1980s, the treatment of hackers in the media already had a negative valence and was associated with potentially criminal exploits. Levy’s account forged a distinct identity that countered these negative stereotypes, although the term hacking is still used to denounce a wide variety of acts from whistleblowing to corporate crime. Otherwise, his exploration of differences was subdued, even though he noted that hackers did not necessarily agree on what makes one a hacker and whether hacking encompassed practices such as transgression and breaking into computer systems, which were overblown in the media. Moreover, although the hacker ethic postulated that giving away code was key to being a hacker, hackers held divergent stances on the free distribution of information. Historian Fred Turner writes that participants at the first Hackers’ Conference, shortly after Levy’s book was published, ‘by and large...agreed that the free dissemination of information was a worthy ideal, but in some cases, it was clearly only an ideal’ (Turner 2006: 263). Along with a small group of countercultural entrepreneurs and journalists, by the mid-1990s, hackers symbolized ‘the liberated information worker’, who mixed cutting-edge technology skills, creativity and entrepreneurship (Turner 2006: 259). Making free software was, increasingly, only one option among diverse business models that hackers pursued.

The successful commercialization of free software services in the late 1990s inspired numerous intellectuals to rethink the contrasts, well established in FS as well as in the hacker ethic, between proprietary and shared information. An influential elaboration of the hacker ethic from the dot-com era argued that the main ‘ethical dilemma facing businesses in the new information economy’ is that proprietary information (key to money-making) is dependent on publicly available information (gained through research) (Himanen 2001: 59). FS hackers and their norms of distributing—rather than owning—information, Himanen argued, led the way in realizing ‘a free market economy in which competition would not be based on controlling information but on other factors’ (60). Himanen’s analysis relies upon a few well-known free software/open-source hackers and affiliated groups: Linus Torvalds, Eric Raymond, Richard Stallman, the Electronic Frontier Foundation and the Internet Society. What makes FS (rebranded ‘open source’ by a vocal set of activists and business owners) hackers distinctive in his view is that they find passionate interest and joy in their work and prioritize the ‘recognition within a community

that shares their passion’ before the pursuit of money as an end in itself (Himanen 2001: 51).

Anthropologists have been much more inclined to explore the heterogeneity of hacker practices (Coleman 2012; Coleman and Golub 2008; Lin 2007). One strategy has been to pursue a more comprehensive categorization of hackers. Coleman and Golub (2008) have identified two ethical codes that hackers in the United States acknowledge in addition to free software: proponents of ‘cryptofreedom’ are concerned with preserving users’ privacy by putting encryption tools within the reach of the public, while ‘the hacker underground’ has adopted transgression as a form of political critique. The concern with preserving the rights of users to legally copy, edit and distribute files—which is central to free software but muted in cryptofreedom and the hacker underground—has led some FS hackers to feel ambivalent or outright opposed to networks that offer downloading of the latest commercial music and films, making users clearly vulnerable to prosecution. The (sometimes uneasy) coexistence of three ethical codes is key to understanding heterogeneous progeny of hacking that ranges from free software to online subcultures of trolling (Coleman 2012).

Another approach revisited the history of FS hacking and longer-term developments that, by the early 1980s, came to be recognized as the hacker ethic. Kelty (2008) has traced five distinct genealogies that converged in the late 1990s around FS: the practices of sharing source code, writing software licences that subvert copyright, coordinating numerous contributors, aligning diverse actors around competing concepts of openness and discussing the principles of free software. Kelty has also reinterpreted the origin story of FS by arguing that the creation of the best known FS licence, GNU GPL, had less to do with the hacker ethic and more to do with historically specific concerns such as the genealogy of technical contributions to the text editor EMACS and the uncertain legal status of software in the early 1980s. Along similar lines, Kelty has argued that the practices of sharing source code in FS were not developed in opposition to dominant business habits but were rooted in a series of hybrid relationships (‘quasi-commercial, quasi-academic, networked, and planet-wide’) that computer researchers have grown accustomed to in the proliferation of UNIX distributions (Kelty 2008: 141).

Hackers, a priori invested in exploring the possibilities of digital media, may be especially predisposed to experiment with the blurring of technological practices and political speech. Usually the relationship between hacking and novel forms of public engagement is broached in one direction only. For example theorists of networked peer production tend to focus on the question of how networks of peers, usually seen as animated by principles of the hacker ethic, may reshape media-making and circulation (cf. Benkler 2006). But the ethnographic work discussed in this section raises a possibility that has so far received less attention: that changes in technological contexts (e.g. the selling of a social networking platform) and legal claims may create pressures for new forms of hacker engagement. This issue was most directly addressed by Coleman (2009) as she juxtaposed an account of high-profile legal battles

(and hackers' understandings of them) with hackers' everyday means of tinkering with technology, interpreting law and developing ethical precepts.

Ethnographic accounts have also suggested several means by which FS hackers learn and reclaim links between technology, law and ethics. Some FS projects, such as Debian, have explicit ethical guidelines and social contracts that developers discuss in the process of joining the project (Coleman and Hill 2004). Coleman and Hill have argued that as Debian developers become proficient in developing code and in discussing the implications of Debian software licence and policies, they also develop a commitment to information freedom. The implication is that pedagogical and legal apprenticeship is key to both distributed authorship and shared ethical precepts. Voting systems, such as in the Apache project, are also key to distributed authorship. Even the Linux project, Keltly has argued, owes its success to 'Linus Torvalds's pedagogical embedding in the world of UNIX, Minix, the Free Software Foundation, and the Usenet' (Keltly 2008: 215). Furthermore, although scholars and hackers themselves consider online/mediated interactions to constitute the key sites for work and socializing, the growth of conferences and yearly meetings gives hackers another important venue for developing and intensifying vibrant commitments and a sense of community (Coleman 2010b). Coleman writes, 'the advent of networked hacking should not be thought of as a displacement or replacement of physical interaction. These two modes silently but powerfully reinforce each other' (Coleman 2010b: 49). Coleman focuses on large-scale yearly conventions, but the same argument could include workshops, install parties, talks and informal gatherings.

The Expansive Sociality of Free Software

So far, I have sketched how ethnographies of FS hackers and geeks have qualified or challenged some generalizations about FS. However, their limited horizon—focusing solely on FS developers—raises questions about the meanings of FS among other groups, in other times and places. It invites an exploration of the global variation in 'recursive publics' (Keltly 2008) or 'network good' (Weber 2004). In my ethnographic study of FS advocacy in France, I found that FS advocacy is affected by national labour laws and nongovernmental organizations, linguistic differences, the availability of high-speed Internet access and contingent phenomena such as European Union integration or national revision of authorship law (cf. Karanović 2008). Ethnographies here can contribute an understanding of the daily activities that constitute engagement with software beyond a small number of very well known and studied projects. In the campaign against software patents in the European Union, FS activists wrote software but also planned protest actions, organized talks and conferences, talked to members of the European Parliament (MEPs), streamed and transcribed debates at the European Commission and published activist documents

about US software patents, the European Patent Office and even the voting habits of MEPs (Karanović 2010).

The close attention to actors and contexts matters in understanding why FS developers embrace specific practices and representations. For example in response to two high-profile arrests of hackers in 1999 and 2003 for publishing allegedly illegal software, US-based free software programmers asserted that software was a form of public speech. Furthermore, they crafted the link between software and speech by writing code in the form of haiku and emphasizing its expressive possibilities (Coleman 2009). Around the same time, some of the participants on the German-language mailing list Oekonux, committed to discussing social implications of free software, found the concepts of cooperation and exchange to be overly simplistic when denoting their practices in free software and similar projects (Lovink 2003).

Ethnographic accounts of the expansive sociality of FS also suggest another way of thinking about the (utopian) universality of free software: anyone is invited to contribute. If taken seriously, this widens the scope of research beyond geeks and hackers. Keltly writes that the circle of FS users and potential contributors before 1998 was limited to people in high-technology hubs who 'got it'; this 'made it possible for [the ethnographer] to travel from Boston to Berlin to Bangalore and pick up an ongoing conversation with different people, in very different places, without missing a beat' (Keltly 2008: 20). New participants have always been welcome to FS, but in the early 2000s they came from a wider geographical and social range. This has inflected the scope, practice and ideals associated with FS. For example Peruvian FS activists were willing to engage formal political representatives and link notions of citizens' political rights to the adoption of FS in their national administration. As a result, public debates about FS in Peru were less influenced by considerations of technical strength or economic advantages than 'the recordability of political and civic bodies' (Chan 2004: 535). At the same time, the high-profile adoption of FS in the Brazilian public sector was led by experts who endeavoured to challenge neo-liberal assumptions about technology- and intellectual property-driven economic growth (Shaw 2011). European FS advocates involved in the campaign against software patents decried the common-sense association of software with technology. As they became familiar with EU policymaking around software patents, many acquired a critical awareness of their European citizenship. For this reason, debates about software patents shed light not only on FS in the European Union but also on competing visions of the European Union (Karanović 2010).

Furthermore, an ethnographic purview may shed light on some dilemmas of gendered participation in the FS movement. FS advocates worldwide have for several years been concerned about the low participation of women and the absence of women's voices in FS projects (Ghosh et al. 2002; Lin 2005). The existence of several projects, such as Debian Women and LinuxChix, that explicitly aim to increase the participation of women developers qualifies the assertion that an egalitarian and

meritocratic imagination precludes thinking about gender imparity among developers (Leach et al. 2009). I proceed to describe how a small group of women catalyzed debates about gender and participation in FS projects, although not entirely on terms of their own choosing. My account here is based on website analysis, interviews and twenty-month participant observation, in 2004 and 2005, among voluntary associations promoting FS in France.

The term *geek* (pronounced *gik* or *zhik*) comes from English and was popularized among French FS advocates via *copinedegeek.com* (which translates as ‘geekgirlfriend.com’), a website created and maintained by romantic partners of several French software advocates between 2002 and 2005. Two of the website founders worked in a Parisian web-hosting company with gendered divisions of labour and technological platforms. The two women, Annabelle and Elsa, were the only women employees in the company, and both worked in marketing. Their male colleagues all worked on technical support and used free software. The two women first heard of free software during lunch conversations with coworkers and then read free software magazines, looked at websites of free software associations and visited the booths at the main free software convention in Paris. A few months later, both women found themselves dating free software developers, and they noticed that conversations with their dates resembled their lunchtime conversations with coworkers. This inspired them to create a website that would draw out these similarities in a humorous way. Annabelle bought a domain name (*copinedegeek.com*), and a team of six women launched the site in May 2002.

The mission statement positioned the website as ‘foremost a result of years of experience of living with a free software geek’. Texts and images on the site presented, and made fun of, various stereotypes associated with free software developers, under the umbrella term of geeks. For example the photo-stories featured corporate computer industry bosses, ambitious corporate employees and girlfriends alongside free software developers. Humorous firsthand testimonials discussed geek diet, sense of time, dress style, importance of machines, vocabulary and holidays, all presented from the perspective of a girlfriend talking to another woman. The ‘Geek Fair’ section resembled a dating website; it had personal profiles as well as sorting, searching and messaging features. Some profiles read like personal ads, and several couples met through these personals. But more often, people made new friends; for example men who were habitually very shy used this platform to find partners for in-line skating rounds in Paris.⁴

In my interview with Annabelle, she explained that she had conceived of *copinedegeek.com* as a website made by women for women, intending to make them and their partners laugh. Yet the site rapidly took off in a direction that eclipsed her intentions. The majority of visitors were men who were trying to understand, in Annabelle’s words, ‘the way in which women saw geeks’.⁵ These men visitors found humorous caricatures to be an adequate framework for thinking about gender and technology. Geeks were, on this website, assumed to be heterosexual men, although

Annabelle did receive one e-mail from a gay man who offered to contribute articles for the website. He often found himself adopting the strategies presented on *copinedegeek.com* in dealing with his geek partner.

There was no article devoted to defining a geek girlfriend, but the site made fun of a certain vision of femininity: it was designed in various shades of pink, decorated with red hearts and smiley faces and offered funny psychological surveys and virtual greeting cards. The top banner featured mascots of different free software projects, which are usually shown single—but, on the banner, each mascot was kissing, holding hands or looking at a counterpart of its kind. Less obvious to a casual eye is that the women designed the website using free software programmes only. Furthermore, the site’s content was licensed through a FS-style licence which indicated, ‘this document can be reproduced by any means if it is not modified and if this note is attached’ (*copinedegeek.com* 2002a).

The specifics of time and place matter for understanding how these caricatures became a key Francophone site for understanding geeks at the turn of twenty-first century. Many French Internet professionals at the time eagerly read books by communication theorists, curious about how FS might contribute to realizing what they saw as the revolutionary social potential of the Internet (Karanović 2008). Annabelle’s sources of inspiration included funny and often offensive French online forums—comparable to today’s 4chan—that made fun of Internet enthusiasts.

Most French FS developers, advocates and enthusiasts were organized through voluntary associations. In contrast to *copinedegeek.com*, FS associations in France had very few women members and abstained from geek imagery. The term that most FS advocates preferred for their engagement was *militant* (advocate). Within a broader constellation of terms that are used in France to denote public engagement, *militant* implied enthusiasm, abstaining from radicalism and active engagement with people who were unfamiliar with FS issues. Aiming to broaden the range of people interested in free software, FS advocates emphasized a sense of social purpose in contrast to imagery of geeks as asocial technophiles or gadget consumers. Some advocates readily affirmed that they were not geeks, that their organizations were not limited to technical specialists and that free software should be accessible to anyone, democratically. When preparing public presentations or staffing booths at public events, FS associations’ members were instructed to avoid using computer jargon, being glued to the computer screen and, above all, showing the command window or source code to newcomers. Displaying these specific traits was reputed to scare away the non-computer-savvy visitors.

The visibility of *copinedegeek.com* caricatures catalyzed discussions about desirable engagements that advocates aimed to foster around free software. Several FS advocates criticized the gendered caricatures on which *copinedegeek.com* stories thrived. Mireille, one of the most outspoken critics, found that the site discouraged women technical workers, because it positioned women in the role of assistants to men, who were technicians. Mireille faced these stereotypes in her daily work as

technical assistant in an FS company: whenever she picked up the phone, the client assumed that she was a secretary. Mireille adopted the (grammatically masculine) title of *technicien* (rather than *technicienne*, a neologism that would be visibly marked as feminine) in an attempt to fight harmful stereotypes of gender and technology. The texts on copinedegeek.com, she found, also stereotyped men FS developers as inept social beings.

I have faced a similar set of stereotypes regarding gender and technical skills in negotiating my participant observation. For example, my presence at public events increased the number of women, which defied stereotypes of free software being a men's domain but often reinforced other stereotypes, notably those about gender and technical mastery. This became clear during the European IT Week fair, when I spent three days at the free software booth wearing a badge that identified me as 'exhibitor'. When someone asked me a question and I could not answer it, in embarrassment, I tried to switch my badge to one that said 'visitor'. Mario, an FS advocate who was at the booth with me, said I didn't have to worry about it too much; if I did not know the answer, I could just ask someone. But I did not want to reinforce the impression that women were at the booth solely in order to attract visitors and that the knowledgeable people were men. Despite feeling uncomfortable, I decided to stay at the booth in the interest of my research. On another occasion, I asked the organizing board of the local Parisian FS voluntary association whether I could join its mailing list. In response, the association invited me to join the board. A board member explained that the association was considering applying for some public funds, and the presence of at least one woman on the organizing board would increase its chances of obtaining the funding. Again, in the interest of my research, I accepted the role. (The association did not submit the application for funding.)

An anonymous article on copinedegeek.com addressed some criticisms. The article stated that the creators of the site were interested in creative uses of computers; they installed FS operating systems on their computers and used them for daily work; they understood and could engage many debates about the benefits and drawbacks of specific FS programmes. The conclusion was, 'If the words "software," "hard disk," "motherboard" give you nausea... it's not obvious that you could be a geek girlfriend' (copinedegeek.com 2002b). In other words, the text suggested, copinedegeek.com offered one means of engagement around FS. But it did set a standard so that every man FS advocate had to decide whether he was a geek and every woman FS advocate whether she was a geek girlfriend.⁶ Although many of my interviewees—men and women—grappled with the implications of endorsing gendered and heteronormative engagement with FS, all claimed that diverse engagements around FS, including copinedegeek.com, were welcome. Voluntary associations, after all, strove to advance a broad range of commitments.

Furthermore, the website did offer a means of engagement with FS for some women. In particular, some women FS advocates found that it offered them a presence in FS without the considerable investment of free time, which was necessary for

work with voluntary associations. For example, Edith and her partner were trained as computer scientists and had been ardent supporters of FS in their twenties. I met Edith in her early thirties. At our first meeting, she adeptly drew logos of various FS projects (*animaux fétiches*) into my notebook and explained their symbolism, along with the principles of FS. She had recently given birth to her daughter, and both she and her partner had since stopped their advocacy activities, because most of their time was occupied by their work and family affairs. Copinedegeek.com offered a means for Edith to continue keeping in touch with her friends.

Still other FS advocates found copinedegeek.com to be an expression of the playful spirit of FS and a showcase for an increased presence of women in advocacy. Véra, a financial consultant and former president of a local FS organization, loved arriving at professional IT conventions and seeing the copinedegeek.com booth, which she saw as 'full of women interested in FS'.

Finally, at least one copinedegeek.com contributor saw the website in a more expansive light, as a platform for talking about women's firsthand experiences with FS. Irène contributed a text that adopted the viewpoint of her daughter. The text narrated how a girl watched her mother type and, afterwards, started pressing the keyboard keys herself and made an astonishing mess that occupied her mother for a long time afterwards. Irène was very proud of her contribution, which portrayed computers in an all-women context and reclaimed copinedegeek.com as the prime platform for women's writing about free software.

Copinedegeek.com was simultaneously marginal and central to FS advocacy in France. The women who embraced the moniker geek girlfriend were, to a great extent, interested and skilled in FS, but on the website they chose to claim an involvement in the community mainly through their relationships with men. While their gendered stereotypes undermined the ideals of meritocracy dear to FS advocates, they also provided one way of addressing the knotty questions of where, how and for whom gender matters in FS. The peculiar gendering of the term geek challenges the idea of a seamless global conversation across continents—even when the platforms, practices and some of the assumptions are shared.

Conclusion

By creating sophisticated media platforms and an unconventional but robust legal regime of circulation, FS activists recast media change in terms of choices, which are often tied to political and social conjunctures. My discussion of the hacker ethic and expansive sociality of FS suggests two ways in which legal, ethical and political confrontations around software are carried forward in daily life. Hackers' commitments to freedom of speech and sharing of information are oriented towards maintaining a community of peer developers which requires individuals to embark on a pedagogical, ethical and legal apprenticeship. I have argued that this kind of sociality is a

central but not the only way of participating in free software. Actors and practices that are only incidentally related to coding, such as the copinedegeek.com team, nevertheless shape the social meanings of free software, even as they reframe the participation in FS in ways that elicit ambivalence among FS contributors. More broadly, copine-degeek.com suggests that there are multiple ways to be involved in free software. The acceptance of this diversity, as I have illustrated, invites a debate about the goals of FS projects as forms of public engagement.

FS is also an effective reminder that utopian ideals and formal dichotomies (e.g. free/proprietary, copyleft/copyright) are only a starting point for an investigation of the changing practices of media production, consumption and distribution. While FS licences uphold users' rights to share and modify software, much of the sharing practised on YouTube, Flickr and various social networking sites takes place in direct contradiction of their terms of use that reserve pervasive rights for infrastructure owners. FS principles then suggest one approach to sharing in a much more pluralistic landscape. Furthermore, various contingencies emerge when analysing how practices of online sharing combine with the rules of the marketplace and novel forms of publicity. For example commercial media producers have employed strikingly different strategies towards fans' distribution of media in the case of music sharing, anime fandom and viral marketing (Varnelis 2008). Although many goods are shared without charge, it is the diversity of commitments and relationships that are pursued through these activities that is striking (Rodman and Vanderdonck 2006). For this reason, I hesitate to subsume various projects of no-cost digital media sharing under a common umbrella and instead suggest that 'entailments and containments' in these projects may be one rich area for further empirical study (Strathern 1996: 525). Not only may further studies shed light on the rationales of inclusion and exclusion around intellectual property claims in specific social contexts, as Strathern (1996) has suggested, but also on the previously neglected emotional, social and ethical considerations that guide individual choices in the proliferation of digital media (Gershon 2010; Miller and Horst in the introduction to this volume). These ethnographic investigations, in realms beyond free software, reassert the importance of what FS activists routinely (and indiscriminately) call 'users' or the 'rights of the public' in the making of new normativities in digital media. By highlighting diverse commitments pursued under the aegis of sharing, further anthropological studies may add a new twist to the debate about minding the legal and technical possibilities in repurposing digital media—which may be a promising contribution that the study of FS offers to thinking about a much broader variety of digital media practices.

Notes

1. Coombe and Herman argue that the opposition of corporations against individual consumers—key to FS and commons advocates—rests on imagining both consumers and corporations as sovereign entities and obscures other actors

whose cultural properties are also entangled in the constellation of intellectual property laws and business in intangible properties.

2. Open-source activist Eric Raymond provided a catchy analogy by arguing that the open-source model of software development is similar to 'a great babbling bazaar of differing agendas and approaches', which he contrasted with a top-down, 'cathedral-style' approach of corporate software development (Raymond 2001: 21, 223).
3. Through participant observation in Creative Commons and the open-source textbook project Connexions, Kelty (2008) has analyzed how the principle of modifiability is extended to science and other domains of cultural production. He took part in several conversations about publishing, scholarly societies and open access to anthropology research (Kelty et al. 2008), made his book accessible online free of charge and contributes to public anthropology via the blog Savage Minds.
4. In-line skating was a major socializing activity among Parisian software activists at the time, so an in-line-skating penguin is a mascot of the Parisian software association Parinux.
5. There were no public comments on this site; readers sent their feedback via e-mail.
6. When confronted with the option of being a geek girlfriend, a number of women FS developers and advocates adopted the moniker 'geekette'—that is a woman skilled and passionately interested in free software. Despite their often having geek boyfriends or husbands, geekettes felt very strongly about their autonomous commitment to the FS movement.

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Diverse Digital Worlds

Bart Barendregt

Digital Futures and Its Discontent

Book titles such as *How the Digital Age Is Changing Our Minds*, *The Future of the Past in the Digital Age* or, for that matter, *The Future of the Internet* suggest how our future is not only wide open but increasingly deemed to be digital. Yet, surprisingly little anthropological research is done on how people envisage these digital futures, nor has there been much attention devoted to the cross-cultural diversity of such imaginations. This chapter, then, will focus on how the idea and ideal of the information society and other modern myths, such as that of the digital revolution, have impacted digital practices around the world and how this sheer diversity will feed back into one of the main narratives of our time.

Join the Future (But Whose?)

For over four decades the ideal of the information society has been a battleground for ideologists, a struggle whose origins can be traced to the early Cold War era. Although in those days the United States outwitted the Soviets on most terrains, the latter could resort to the powerful rhetoric of tomorrow's communist paradise. Hence, a much-needed counterfuture was needed and was eventually to be found in McLuhan's *Understanding Media* (1964). While Soviet intelligentsia propagated a future of cybernetic communism, US think tanks appropriated McLuhan's technology in their drive for progress, above all his notion of the Global Village, eventually producing what is now known as the Net (see Barbrook 2007). Today our future is even more technologically driven, encouraging blind faith in digital technologies and bringing in its wake the rise of a global economy in which e-commerce and e-governance are not yet standard but, nevertheless, are much-sought-after ideals by states and the private sector. However, the very dominance of idealized digital futures has always led to at least a marginal dissident fringe in both the digital hinterlands and in the very heart of the information society. In these heartlands, dissidents point to the information society's shortcomings, creating counterideals of