ANTHROPOLOGICAL PERSPECTIVES ON KNOWLEDGE IN THE DIGITAL AGE

The Hacker Conference: A Ritual Condensation and Celebration of a Lifeworld[1]

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Abstract

This piece draws on ethnographic experience at various hacker conferences to rethink how face-to-face interactions work in concert with digital interactivity to constitute social worlds. Through a process of ritual condensation and emotional celebration, the conference works to perform and thus confirm what are otherwise more frequent, though more prosaic forms of virtual sociality. This focus allows me to decenter the historical priority placed on digital interactivity and examine the complementary and intertwined relationships between face-to-face interactions and online interactivity among a group of people often thought of as the quintessential digital subjects. More generally, approaching the conference in light of its ritual characteristics may also demonstrate how social enchantment and moral solidarity, often thought to play only a marginal role in the march of secular and liberal modernity, is in fact central to its unfolding. [Keywords: Hackers, Free Software, Conference, Ritual, Publics]

Anthropological Quarterly, Vol. 83, No. 1, pp. 47–72, ISSN 0003-549.

The Joy of Conferencing

Much has been made over the fact that hacking and the development of Free and Open Source Software (F/OSS) production unfolds in the ethereal space of bits and bytes. "Indeed, serious hackers" writes Manuel Castells, "primarily exist as hackers on-line" (2001:50). Undoubtedly, the substantial academic attention given to the virtual ways hackers—aficionados dedicated to the craft of computing—produce technology is warranted and rich and has advanced our sociological understanding of virtual interactions and labor.[3] But what this literature fails to substantially address (and sometimes even barely acknowledge) is the existence and growing importance of face-to-face interactions among these geeks, hackers, and developers.[4] Perhaps this is so because much of this interaction seems utterly unremarkable—the ordinary stuff of work and friendships. For example, many hackers see each other with remarkable consistency, usually everyday at work where they may share office space and regularly eat lunch together. During down time, they will "geek out," perhaps delving deep in conversation about technology, hacking on some code, or patching and recompiling their Linux kernel just to try something out. On a given day, they might dissect the latest round of the Recording Industry Association of America (RIAA) lawsuits launched against P2P file sharers and bemoan the discovery of a particularly obnoxious security hole in the Linux kernel.[5] The following day, they might tackle some work related technical hitch and express their relief that the security hole was patched. They may, if they attend school, take classes together and in the evening spend hours together in the Computer Science lab where they hack on projects, interacting in ways strikingly similar to Steven Levy's famous portrayal of hackers before the advent of large scale connectivity (1984). On weekends, closer friends may informally socialize at a bar, during a camping trip, at a technically oriented meeting, or at a Local Area Network party (a temporary gathering of people together with their computers, which they connect together in a local area network [LAN] in a location pri-

Roland Bauerschmidt

Figure 1: Debconf1, Bourdeaux, France[2]

marily for the purpose of playing multiplayer computer games). If they live in a location with a particularly high density of geeks, usually big cities with a thriving technology sector (for example, Amsterdam, Munich, Bangalore, Boston, São Paulo, San Francisco, Austin, NYC, and Sydney), face-to-face interactions are more likely to transpire, especially since geeks are often roommates or interact through informal hacker associations, collectives, and workspaces that are grounded locally.[6]

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. Reading the latest technical, legal, or social news about F/OSS on a web news portal every morning, then posting the article link on a mailing list board (perhaps with a brief analysis), and discussing this news with friends over lunch, bolsters the validity and importance of such public discourse. Public discourse grabs attention effectively not only because it circulates pervasively, but because of the ways in which developers consistently discuss and reflect upon this discourse with each other in person.

Admittedly, hackers may not think of this type of daily or weekly in-person interaction among friends and work-mates as the locus of the "community" commonly referred to when speaking of computer hacking or F/OSS. For many hackers, the locus of sociality is, as much of the literature argues, networked and translocal. Composed of a vast and dispersed conglomeration of people—close friends, acquaintances, strangers—they see themselves united by a fervent interest in and commitment to technology and connected via the Internet applications that allow them to communicate and build technologies.

However, if hackers have undoubtedly come to situate themselves in a vast global communications network and imagine themselves in terms of networks and virtuality, they have increasingly done so by celebrating their translocality in person. More than ever, hackers participate in and rely on a physical space common to many types of social groups (such as academics, professional groups, hobbyists, activists, and consumer groups): the conference, which in hacker lingo is usually designated by its shorthand, the "con."

Coming in multiple formats, the number of hacker cons is astonishingly high, although it must be emphasized that their emergence is quite recent. Nonexistent before the early 1980s, the semi-autonomously organized hacker con has proliferated most dramatically during the last fifteen years, keep-

ing apace with the seismic expansions of networked hacking and undeniably made possible by changing economies of air travel.

To adequately grapple with the prosaic nature of hacker sociality, whether virtual or in person, we must also give due attention to these events, which take on an extraordinary and, for some hackers, a deeply meaningful aspect to their lifeworld. Following the anthropologist Michael Jackson, I take the lifeworld to be "that domain of everyday, immediate social existence and practical activities with all of it habituality, its crises, its vernacular and idiomatic character, its biographical particularities, its decisive events, and indecisive strategies" (1998:7-8).

As I address shortly, the conference is culturally significant because it allows hackers to collectively enact, make visible, and subsequently celebrate many elements of their quotidian technological lifeworld, whether it is by laying down cable, setting up a server, giving talks about technology, or hacking up some new source code—all of which unfolds in an emotionally charged setting. The production of high quality technology or securing a small but important technical solution, especially when achieved through a particularly clever means, are the actions these developers associate with hacking or a good hack. What the conference foremost allows for is a "condition of heightened intersubjectivity" (Collins 2004:35) where copious instances of hacking are brought into being and social bonds between participants are made manifest, and thus felt acutely. Taking what is normally experienced prosaically over the course of months, hackers collectively condense their lifeworld in an environment where bodies, celebration, food, and drink exist in excess. Interweaving hacking with bountiful play and constant consumption, the atmosphere is one of festive interactivity. As if making up for the normal lack of collective co-presence, physical contiguity reaches a high-pitched point.[7] In short, for a brief moment in time, the ordinary character of their social world is ritually encased, engendering a profound appreciation and awareness of their labor, friendships, events, and objects that often go unnoticed due to their piecemeal and quotidian nature.

Evidence of this appreciation and awareness is everywhere marked, especially at the end of a conference, when participants say their goodbyes and increasingly reflect on the conference on their blogs:

> My first Debconf [a Free Software conference] was probably the best single week of my entire life. Yeah, it was that awesome…I won't talk

> about all the stuff that happened, because that would just take too long. The most important thing was that I got to see a number of old friends again and spend more time with them in one run than ever before. That alone was really enormous for me. On top of that was the pleasure of finally meeting so many people in person. I met a few XSF members finally, including Julien Cristau, my partner in crime. …. There was staying up until 5 in the morning and stumbling back to the hostel in the dawn to try and get some sleep before running back to the conference. The most delightful thing about all this was that so many people I already knew and loved were there, and everyone who I hadn't met in person turned out to be even better in real life. It was like a week of the purest joy.[8]

These types of intense and pleasurable emotional experiences and expressions are abundant. They are deeply felt and often freely expressed, which engenders not only a new appreciation of their world, but also a new way of actually experiencing their lifeworld.

In what follows, I provide an account of the social metabolism of the hacker conference and end with some initial, theoretical thoughts on how conferences help sustain indirect relationships and how we might conceptualize the conference as the ritual underside of the public, a largely discursive social formation whereby participants interact through various media and mediums, notably circulating discourse in such forms as newspapers, journals, weblogs etc.

Brief History: The Hacker Con

Since the history of the hacker conference has yet to be written in any detail, it is important to provide a few basic details here. Before the advent of the autonomously organized hacker conference, computer enthusiasts met during trade workshops and professional conferences. Important precursors to the hacker con were hardware and hobbyist gatherings, many which pre-dated personal computers. In the late 1970s, for example, hardware hobbyists in the Silicon Valley region met regularly at the Hombrew Computer Club meeting to discuss the latest hardware developments (Friedman 2005). Others hosted amateur computer shows where they displayed their home-crafted electronics and computer equipment alongside those manufactured by small corporations that would

eventually engulf and eradicate the PC hobbyist movement. Though some small corporations displayed their products, these affairs were nonetheless informal geek-out gatherings.

For example, in 1976, Jim Warren decided, after attending the Atlantic City PC '76 event, to host a West coast version, which he called the "West Coast Computer Faire." Much more popular than anyone anticipated, Steven Levy described this as the hacker equivalent of the "Woodstock in the movement of the 1960s" (Levy 1984:266). To the best of my knowledge, it was still another eight years before the first autonomously organized hacker conference was held.[ix] Initially inspired by the book *Hackers* and organized by the entrepreneurial journalist, Stewart Brand, this con was held north of San Francisco in 1984 and brought together participants from all over the country (Turner 2006). Operating on the basis of personal invitation, the "Hackers" con still exists as a private, elite affair.

The "SummerCons" also started in this period. These were hosted by the editors of underground e-zine *Phrack* and were also invite-only affairs, not opened to the general public until 1995. In 1990, the Cult of the Dead Cow, an underground hacker group based in Texas, hosted HoHoCon. Open to the public, the brash organizers also invited journalists and law enforcement officials who had attended some of the previous SummerCons as peeping toms. HoHoCon became the template for the series of similar cons that would mushroom in the early 1990s such as Defcon (Las Vegas), PumpCon (Philadelphia), and 2600's HOPE (New York City). In the late 1980s, the Computer Chaos Club in Germany and the Hacktic/Hippies from Hell in the Netherlands started to hold outdoor festivals every four years and still host these enormously popular events, drawing hackers from all over Europe and North America. In the late 1990s and early 2000, alongside a number of Linux and Free and Open Source specific conferences, a number of F/OSS virtual development projects started to hold their own developer cons. Held annually, these developer conferences are often scheduled to follow or precede professional meetings, like LinuxWorld and Usenix.

A Ritual Condensation and Re-enactment of a Lifeworld

Hacker cons occur infrequently but consistently. They reconfigure the relationship between time, space, and persons; allow for a series of personal transformations; and perhaps most significantly, reinforce group solidarity.

All of these aspects of conferences make them ritual-like affairs (Collins 2004). While experiential disorder, license, intense bonding, and abandon are common to them, they tend to lack the types of reversals or inversions found in traditionally identified forms of ritual that feature carnivalesque play, rites of passages, resolution of social contradictions, or periods of secluded liminality (Bakhtin 1984, Turner 1967, Gluckman 1954).

Instead, hacker conferences are rituals of confirmation, liberation, celebration, and especially re-enchantment where the quotidian affairs of life, work, labor, and social interactions are ritualized and thus experienced on fundamentally different terms. Through a celebratory condensation, hackers imbue their actions with new, revitalized, or ethically charged meanings. Lifting life "out of its routine" (Bakhtin 1984:273) in its place, hackers erect a semi-structured but highly flexible environment, the kinetic energy being nothing short of irresistible and corporeal interactivity. These are profound moments of cultural re-enchantment whereby participants build and share a heightened experience of each other.

Since there are "only hosts for there are no guests, no spectators, only participants" (Bakhtin 1984:249), most everyone arrives on equal footing, ready to contribute their part to what can only be characterized as a dizzying range of activities that include formal talks, informal gathering usually called BOFs (birds of a feathers session), copious eating and drinking, maybe dancing, hacking, gaming, sight-seeing, and non-stop talking.[10] A little bit like summer camp but without the rules, curfews, and annoying counselors, many hacker cons are the quintessential hacker vacation—a vacation that often involves furiously exhausting work, lack of sleep, and the need to take a real break afterwards.

Though organizers spend many months of hard work planning these conferences, the participants tend to experience them as evanescent. Because very little beyond talks and a few planned events can be foreshadowed or predicted in advance, the social atmosphere is pregnant with possibility. Time takes on new qualities. Most especially, time in the ordinary (and often annoying) sense of having to keep it, is unimportant as are many other demands of day-to-day living. Participants can change the outcome of the con itself by self-organizing, announcing new sessions, planning events, or by buying a lot of alcohol (that if drunk inadvertently derails other plans). Its temporal potency resides in its sheer intensity—a feverish pace of life in which freedom of expression, action, interactivity, and laughter reign loose and is often channeled to secure the bonds

behind "intense comradeship" (Tuner 1969:95, Collins 2004) undoubtedly felt by many. Reflexivity and reflection are put on momentary hold, in favor of visceral experience. Attention is given entirely to the present moment, so much so that the totality of the conference is usually recalled as startlingly unique—its subsequent representation, whether in text, photos, or video, a mere shadow lacking the granularity and depth of what actually transpired.

But while its power seems to reside entirely in its temporal singularity, its effects are multiple, far outlasting the actual con itself. By the end, due to sleep deprivation, over consumption, and the physical-temporal condensation of interacting with peers in a non-Internet mediated way, bodies and minds are usually left worn, torn, and, often, entirely devitalized. Nonetheless, by witnessing others who share one's passions and especially by freely partaking in them, the hacking spirit is actually revitalized in the long run, after the short (and, for some, extended) recovery that is needed to return to normal from the con. Participants come to think of their relation to hacking or a particular project in a different light. Above all, any doubts about one's real connection to virtual projects and relationships are replaced by an invigorated faith and commitment to this world.

It is clear that what is significant for hackers about these events is how they are able to celebrate and appreciate their social world. For academics interested in the relationships between virtual and non-virtual domains, the conference can be used to pose important questions about how social actors like hackers, who are fully immersed in networked digital mediums, might indigenously conceive of the relationship between the virtual space of text on the screen and the material space where bodies meet. While hackers as a group rarely collectively theorize the nature of virtual interactivity, as academics are prone to do, the immense value these hackers place on these face-to-face encounters, nonetheless points to how they natively imagine the nature of and even the limits of virtual interactivity. The hacker conference is not only a social drama that produces feelings of unity, as I will demonstrate below, but can also be fruitfully approached as ethical and social commentary—a native critique—that speaks to how hackers themselves might imagine interaction. By emphasizing so strongly the human interactivity of the conferences, they are implicitly agreeing with the idea that virtuality, however meaningful, cannot ever fully replace or mimic face-to-face sociality.

The Social Metabolism of a Typical Developer Conference[11]

After hours of travel, hackers who tend to come from Western Europe, Australia, New Zealand, the United States, Canada (and a few from Asia and Latin America), trickle in throughout the first day and night to the venue. The Debian developer conference, for example, is held every year in a new location for over a week and brings together around 400 developers who work on maintaining this Linux distribution, which now boasts over 20,000 software packages.[12] Those who have traveled especially far but have attended such conferences before, arrive exhausted but enthusiastic. For first timers, the anticipation may be a little more amorphous but no less significant. The prospect of seeing, meeting, talking (actually in person!) with people you interact with every day, but typically only through the two dimensional medium of text, is thrilling. Many participants, unable to contain their excitement, skip the first (and maybe second) night of sleep, spending it instead in the company of peers, friends, alcohol, and of course, computers.

No respectable hacker/ developer con could be called such without the ample presence of a robust network and hundreds of computers, the material collagen indisputably connecting hackers together. Thin laptops, chunky PCs, reams of cable, fancy digital cameras, and other assorted electronics equipment ostentatiously adorn the physical environment. Animated by fingers swiftly tapping away at the keyboards, computers return the favor, animating faces in a pale blue hue. Most cons now host a hack lab, a room filled with long tables, nearly every inch occupied by computers networked together, available for experimentation, testing, playing, demonstrating, etc. In the first few days, much of the technological chatter centers on the difficulties and solutions behind setting up the network, which, in the case of the Debconf conferences, is usually commemorated in detail in the final report:

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Figure 2: Debconf4 2004, Porto Alegre, Brazil[13]

> The building itself had to be wired from the 2nd floor to the basement, and we ended up stringing approximately a kilometer of cable for the

> network backbone…Every room was interconnected with redundant links. This turned out to be fortunate: we did have wiring failures, but no one except the admins noticed and work continued interrupted.[14]

Virtually communicating with participants (as well as with those unable to attend), hackers continue to give due attention to their work and networked interactivity even while in the presence of others.

Since coordinating the hundreds, sometimes thousands, of hackers at a con can be a bit of a challenge, geeks naturally turn to technology for help. Even before the start of a conference, organizers erect an Internet Relay Channel (IRC) channel, mailing list, web page, and wiki. Many geeks who are coming from out of town change their cell plans, rent a cell phone, or get a new chip for their cell phone to provide them with cellular service at the local rate. Naturally, some of the many technical discussions are about the latest mobile technologies and the local mobile network. These tools are prolifically used to locate people, spontaneously coordinate new events, collect all sorts of information (for example local places to visit), compile a list of where people are from, find out where to do laundry, coordinate, and post slides.[16]

Wouter Verhelst

Figure 3: Debconf9, Cáceres, Spain[15]

Posted on the Debconf4 mailing list, the following message exemplifies how such lists are used to organize new activities, some of which naturally concern technical matters:

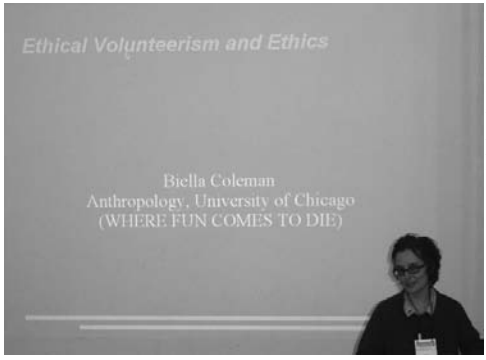
> Hi,
> Chris Halls pointed out to me exactly how many people there are wandering this place with laptops. Both Enrico and I maintain packages to enable more or less automation of what happens when your laptop finds itself in a new location (i.e. guessnet and whereami), and I think it would be worthwhile for us to maybe chat with "itchy" people to see if we can scratch things in the right place. It seems that there are far

too many of these things around, and some review, rationalization, and redesign is probably in order.

Is anybody interested in helping us out with this? I'm not sure if this is a BoF (Birds of a Feather), but maybe an informal meeting over lunch, or a discussion with one or the other of us.[17]

During talks, IRC becomes the high-tech peanut gallery. Hackers unabashedly discuss the talks as they unfold, giving those not present, but online, an often humorous textual play-by-play of them. At the con, these networked and virtual technologies exist in much the same way they ordinarily do. Rarely used in isolation or to replace the "meat-world," they augment interactivity (Miller and Slater 2001, Taylor 2006, Hakken 1999). And hackers have grown adept at fluidly moving between them, cultivating a peculiar incorporated competence—a hexis, the "durable manner of standing, speaking and thereby of feeling and thinking" (Bourdieu 1977:93) used to negotiate this movement. Even while typing furiously away, eyes scan various open windows on the computer, but their ears are usually perked up, listening to the chatter, ready to contribute to the conversations unfolding in the room. Here and there, material and virtual, their bodies sit at an intersection, processing bits and bytes as well as other physical bodies, who do the same.

Cons offer ample opportunity for individuals to present their own work or interests to a larger audience. After laboring either in isolation or with others but only online, developers feel a rush of pride and honor in presenting their work to a roomful of collaborators and peers who are keen and interested to learn more or lend a helping hand.[18] Despite the fact that many participants stay up until the crack of dawn, many still manage to put aside biological imperatives to stay awake to attend the talks. Though many talks are on technical matters, they usually span multiple topics: legality, politics, cooperative sociality, and even the anthropology of their project.



Christian 'bubulle' Perrier

Figure 4: Debconf4, Porto Alegre, Brazil[19]

While the experience of a con may ostensibly evade representation (or strike participants as entirely fleeting), they are nonetheless important historical conduits—perhaps the most significant place for simultaneously experiencing the past, present, and future of a project. During cons, participants make important decisions that may alter the character and future course of the developer project. For example, during Debconf4, spearheaded by the efforts of Erinn "helix" Clark, the handful of women attending used the time and energy afforded by an in-person meeting to initiate and organize "Debian-women," a website portal, Internet Relay Channel, and mailing list to encourage female participation by visibly demonstrating the presence of women in the largely male project. Below is a picture of some of them brainstorming to help helix prepare her talk on women and computing, which was held the next day.

"TINC"

Figure 5: Debconf4, Porto Alegre, Brazil[20]

Following the conference, one of the female Debian developers, Amaya Rodrigo, posted a "bug report" calling for a Debian-women's mailing list, explaining the rationale in the following way:

> **From:** Amaya Rodrigo Sastre <amaya@debian.org>
> **To:** Debian Bug Tracking System <submit@bugs.debian.org>
> **Subject:** Please create debian-women mailing list
> **Date:** Tue, 01 Jun 2004 22:12:30 +0200
> **Package:** lists.debian.org
> **Severity:** normal
> Out of a Debconf4 workshop the need has arisen for a mailing list oriented to debating and coordinating the different ways to get a larger female userbase. Thanks for your time :-) [21]

While decisions, such as the creation of Debian-women, address present conditions to alter the future history of a project, cons also imbue projects with a sense of historical time. Different generations of hackers intermix, older ones recollect times past, letting the younger hackers know that things

were once quite different. The picture below was taken during an informal history roundtable, with the founder of Debian, Ian Murdock, and another longtime developer Bdale Garbee (among many others not pictured) recounting what Debian was like in the early days when there were only a dozen developers. Younger developers added their own stories about how they ended up working on Debian.[22]


Roland Stigge

Figure 6: Debconf4, Porto Alegre, Brazil[23]

Though information may strike outsiders as mundane, for those involved in the project, learning how its social organization radically differed ("the New Maintainer Process for me was e-mailing Bruce Perens") or to find out where key Debian servers were once housed ("under x's desk in his Michigan dorm room"), is nothing short of delectable and engaging. Ian Murdock, who attended his first Debconf in Brazil, explained to a captivated audience how he came to start the project—a treat for those who knew little or nothing about the birth of Debian:

> From my perspective, there were things wrong with SLS [a Linux distribution] because there was just one guy. And the obvious way to fix it was to do it as a community. Get more than one person involved. And the inspiration for that was the Linux kernel. And for some reason the Linux kernel development model seemed to work. You had one guy Linus coordinating things…. and it seemed to work and I figured, what the hell, let's give it a try and perhaps we can apply the same idea to this distribution.

Over days of conversation, younger developers are acquainted with their project's history, which grows ever more complicated each passing year. In return, younger developers also respond to stories of the past, adding their own accounts of how they became involved in the project and what role they may have played in changing its procedures. This back-and-forth storytelling, especially when based on personal memories and project history, is an apt example of the "second-order stories" that Paul Ricouer identifies as part of

an intersubjective process of "exchange of memories." These he writes, "are themselves intersections between numerous stories," the effect of which is a more pronounced form of entanglement through narrative (Ricouer 1996:6). Other conversations center on more somber matters, for example, sharing stories over one of the many lunches, dinners, and bar visits about a developer who has since passed on, such as Joel "Espy" Klecker of the Debian project, who died at twenty one after fighting a disease that left him bed-bound for many years.

For some developers, this awareness of a shared commonweal takes on a decidedly moral character, leading some developers to reappraise their virtual interactions and behavior with fellow developers. Take, for example, this memorable email sent during Debconf4, entitled "Here at DebConf4" where one long-time developer, Ean Schuessler, known for his argumentative tone on emails, offered the following collective apology to the entire project:

> Well folks, I'm here at Debconf4, and I've had some firm feedback that I am not as funny as I think I am. I knew this was the case in advance, but the irritation some people feel with the brand of my comedy has given me pause. I've argued that since I'm a volunteer that you all have to put up with my attitude. I realized that attitude sucks. It sucks up your valuable volunteer time reading the insulting, acidic emails I throw off when I am frustrated with people… So I'm going to do something unprecedented… I would like to apologize, without reservation, for the accounting flamewar I started on spi/debian-private…[24]

While these sentiments may fade and flame wars invariably return, these sorts of moral revaluations have the chance to arise once again at another future conference.

Some developers who collaborate on a piece of software take the opportunity to sequester themselves for a couple of days and overcome some particularly stubborn technical hurdle, thus accomplishing more in two days than they had done in the previous two months. To non-hackers, the value of this in-person collaboration may seem odd when the collaborators tend to work pretty much as they do at home, i.e., alone on their computers. This is a consequence of the single-user design and function of computers. While at a con, collaborators might physically sit next to the person they work with online (and thus never see) and will often stop and

talk with them, or hammer out a problem over a meal, the actual act of "working" on a project is determined by the object- necessitated state: in a state of interacting with their computer, more often than not, alone. This is occasionally mitigated by shoulder-surfing, and "check this out" stuff that brings people together to look at the same screen, but typically for any substantial work to get done, only one person can operate the machine at a time because the time spent looking at someone else typing, making mistakes that one wouldn't make, or solving a problem in a way that seems inefficient, or bumbling around unable to fix something, makes people quickly gravitate back to being in control of their own machine in a state of mental isolation. The operative object necessities of a computer are particularly interesting at a con because the con fundamentally challenges but never overcomes completely these necessities. What makes the shared sociality of projects so interesting is that people do end up working together—in fact relying upon each other—even though their instrument often demands only one operator.

Take, for example, the following developer, Martin "Madduck" Kraft who wrote about running into "a wall" when working on his software package but was rescued by two developers who "dedicated their time to listen to my design and the problems and helped me clear the mess up."[25] Or Tom Marble who highlighted on his blog "why attending these conferences is great" for he got to "spend some time discussing the future of Xorg with Debian's maintainer, David Nusinow. We talked about how to work around the infamous XCB bug with Java and also about the future of X including OpenGL support."[26]

Aigars Mahinovs

Figure 7: Debconf7, Edinburgh, Scotland[27]

Other hackers, who had hoped to get a significant amount of work done, entirely fail to do so, perhaps because socializing, sight-seeing, night clubs, and impromptu concerts (after fixing an old church organ) prove a greater draw than late-night hacking.

Most hackers, however, intermix play with hacking, giving themselves ample opportunity to see the sights, dance the dances, play the games, eat

the local cuisine, hit the parks and beaches, as well as stay put with computers on their laps, hacking away next to others doing the same. This often continues into the early morning.

During hacker cons, there is a semiotic play of profound sameness and difference. Signs of sameness are everywhere: most people are attached to their computers and share a common language of code, servers, protocols, computer languages, architectures, LANs, wireless, kernels, man pages, mother boards, network layer, file sharing, stdout and stderr. Debian, Free Software Foundation, and other geeky tee-shirts are ubiquitous. With each passing day, the semiotics of sameness are enlivened, brought to a boiling point as participants increasingly become aware of the importance of these personal relations, this form of labor, and of Free and Open Source Software—in short, the totality of this technical lifeworld.

Within this sea of sameness, eddies and tides of difference are sculpted by individual personalities, the unique existence of physical bodies in proximate space, and political and cultural difference. A mixture of different thick accents cascade over endless conversations. The melodic Italian competes with the enchanting Portuguese. The German Jaaaaaa always carries more weighty affirmation than the US English "yeah." Everyone adopts the basics ("please" "yes" "no" "thank you") of the native language. Italian anarchists work alongside US liberal democrats. Bodies sleeping, eating, and interacting make themselves known without asking, the peculiar corporeal details: green hair, a wheel chair, gray beards, red flushed cheeks, a large toothless smile, the Texan drawl, a freckled face, the paucity of females—make a lasting imprint and are captured in the thousands of photos that are taken and posted on the Debconf gallery.[28]

By the end, the play of sameness and difference no longer can make their mark, for bodies exist deflated, slightly corpse-like. Unable to process signs of life or even binary, some hackers experience a personal systems crash.

Wolfgang Klier

Figure 8: Debconf3, Oslo, Norway[29]

At the airport, awake but often a little dazed, participants engage in one final conversation on technology, usually mixed in with re-visit-

ing the notable events that transpired at the con. Before the final boarding call is made, some voice their commitment to return to next year's Debconf, which is usually already being planned by excited participants who want to ensure another great (possibly better) event: "I'll be back in Argentina unless something goes seriously wrong"[30] wrote one developer on his blog. Another mentioned that "I look forward to attending additional DebConfs in the future and encourage everyone to experience DebConf—they won't regret it!"[31] For those who return annually, the hacker con takes on the particular ritual quality of pilgrimage (Clifford 1997).

If immediacy and immersion set the tone of the con experience, as soon as one leaves a new experiential metabolism takes its place: one of heightened reflexivity. As noted by Victor Turner, rituals and similar cultural performances allow for an acute form of apprehension in which social actors reflect "upon themselves, upon the relations, actions, symbols, meanings, codes, roles, statuses, social structures, ethical and legal rules, and other socio-cultural components which make up their public 'selves'" (Turner 1986:2; 1967:105). While this is certainly the case for the hacker con, most of the reflective work happens later, after the sheer intensity of action recedes and a feeling of nostalgia kicks in.

Small bits of this process are openly shared on mailing lists and blogs, especially by con neophytes who had never experienced such a gathering before:

> It was the first Debconf for me, and it was very exciting and brought many different views on software development and deployments, even though I'm now hacking for over 12 years…[32]
>
> I don't think I could ever have had a better first debconf experience. I think it was as close to perfect as possible; everyone was friendly and that was the most important thing…There is only one thing that I am sorry about and that is that I had to leave so soon.[33]
>
> The best moment of the whole event was the formal dinner with the rain, the mariachi, the mole, and the animations. I could never have been so happy. That's the way I see Debian: alive.[34]

For weeks, sometimes months, afterward, the IRC channel remains highly active as people who spent the week together reach out over virtual channels to try to regain the social interactivity they have lost. Conversations detailing particular events work as an inscription device, making

sure that such events transform into collective memory and outlast the place and time of their occurrence. The duller (and, for some, oppressive) atmosphere of The Office makes the con more wondrous, bringing into sharper focus its creative, open potentials, fueling the strong desire to return, yet again.

If cons undoubtedly cement group solidarity, they also usher in personal transformations. Liberated "from the prevailing point of view of the world…and established truths, from clichés, from all that is humdrum and universally accepted" (Bakhtin 1984:24), people embark on decisions and actions they probably would not have considered otherwise. Some hackers decide to formally apply to become a Debian developer, while long-time developers decide not to quit the project—just yet. Others may tone down their mailing list flaming after meeting the developers in person. Some fall in love during the con, sometimes with another participant, other times with a local. If the con was more politically oriented (like HOPE), a developer may begin work on an overtly political project. A few may quit their job working on proprietary software, feeling that if others can make a living from free software, they ought to be able to, as well. Some developers (and the anthropologist) begin regular interactions on IRC and can't quite leave, even when the official research period is over.

Conclusion

"Pay no attention to the man behind the curtain!"

—The Wizard of Oz

The hacker con is a condensed, week-long performance of a lifeworld that hackers otherwise build over decades of experiences and interactions connected to various media, institutions, and objects; and as long as a hacker continues to connect to others via IRC, submits patches to open source projects, reads about his technical interests on websites, argues with his buddies over the best-damn text editor in the world (emacs), he adds layers of experiential sedimentation to his lifeworld. Like a large geological rock formation, a lifeworld has detectable repetitions, but they clearly exhibit patterns of change. In one era, hackers connected with others through BBSes (Bulletin Board Systems), now they have transitioned into a larger space of interactivity, tweaking the Internet technology that, as Chris Kelty (2005, 2008) has argued is the regular basis for their association. They now hold a

fairly complex philosophy as to why they should have the political right to inhabit and change these technologies.

In the last decade, the participants and the content of the hacker public have dramatically expanded and diversified (Jordan 2008, Coleman and Golub 2008). Over blogs and at conferences, many geeks engage in a discussion with lawyers and media activists about a range of legal and technical topics concerning the future of net neutrality, the digital commons, and the expansion of copyright into new domains of production. A day rarely passes without hackers creating or reading the publicly circulating discourse that represents this lifeworld, otherwise experienced in embodied interactions, such as maniacal sprints of coding, and laughter poured over the latest Dilbert or xkcd cartoon or Strongbad email/video at work. Insignificant as each of these moments may be, taken together, they become the remarkable and powerful undercurrent that sustains a shared world.

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Figure 9: Debconf9, Cáceres, Spain[35]

There are lines of continuity and discontinuity with times past. Hackers today are still tweaking and building technology like they did as children on their first beloved computer (The Apple IIe, the Sinclair, the Atari), but now they are equipped with more technical know-how, their computer's CPU is light-years more powerful, their online interactions are more frequent and variegated, and they have created and are always creating new lingo. Even while their technical life has become more public, their mailing list discussions, decisions and progress under the display of a simple search query, their social and technical production occurs more than ever in the domestic and private space of the home. Publicity has required a move inward, into the privacy of the room or office where hackers labor during the day, in the evening, on the weekends (for some all of these). A lifeworld is situated within its historical times, even if rarely experienced as anything other than prosaic time, except during rare moments like the con.

Like many publics connected primarily by a shared interest, profession, lifestyle, or hobby, hackers are compelled to re-enchant cultural mores and

commitments by meeting in person. Hackers are also able to re-enact the most important elements of their lifeworld at the same time as they celebrate it. This is significant, for not all groups who associate via the conference can engage in the very activity (fishing, anthropology, race car driving) that binds them together.

Despite this difference, in general, the conference might be theoretically approached as the ritual underside of modern publics, in the sense theorized recently by Michael Warner (2002) and Charles Taylor (2004). While theorists of publics have always noted that face-to-face interactions, such as meetings in salons, are part of the architecture of the public sphere and publics (Habermas 1991), there has been far less attention given to the ways in which physical co-presence might in fact be central to the sustenance and expansion of discursive forms of mediation. Perhaps the circulation of discourse can captivate so strongly and across time and space because of the rare but socially profound and ritualistic occasions, such as conferences, when members of some publics meet and interact, putting their bodies in constant motion with each other, as they discuss the events, topics, and values most important to them. Approaching the conference in terms of its ritual characteristics may also demonstrate how social enchantment and moral solidarity, often thought to play only a marginal role in the march of secular and liberal modernity, is in fact central to its unfolding.

The relations between the conference and the public have affective, moral, technical, economic, as well political dimensions. Transportation technologies—trains in times past and planes in times present—are as much part of the hidden architecture of publics as are newspapers and the Internet, for they transport bodies, normally connected by discourse, to interact in an intense atmosphere for a short burst of time. To organize and attend, these events require significant labor and money. The context of labor and organization (Is it affordable? Held in a downtown hotel, or small forest outside of Eugene Oregon? How is the conference advertised, is it open to all, or based on invitation? What is the environmental impact of far-flung global travel?) carries over to their moral and political texture. Given that most conferences, even those that are consciously made affordable, usually require long distance travel, the economics of conferences make them significantly less accessible to certain populations: the poor, the unemployed (or overly employed who cannot get time off to attend these events), the young, the chronically ill, and at times, the disabled—and of course have significant environmental costs as well. A

political economy of the conference can illuminate how members of a public are poised differentially to each other because of their ability or inability to meet in person.

Just as a public has different instantiations, the same can be said of the conference. If some publics, as Michael Warner perceptively argues, are counterpublics, which maintain "at some level, conscious or not, an awareness of its subordinate status," (2002:119), similar typologies might help us understand the social power and political force of a conference. While most conferences, at some level, share similar features (presentations, talks, dinners), there are notable differences, especially as it concerns things like sleeping and eating. The differences between the American Psychiatric Association annual meetings, where doctors are dressed in suits and mill about during the day at San Francisco's Moscone Center, retiring individually in the evening to a luxury San Francisco high-rise hotel after a nice dinner, and the outdoor festival held by European hackers, where bodies are clothed in tee-shirts and shorts (if that), and many participants can be found sleeping together under the stars of the night, are difficult to deny. The cultural ethos and class of a group is inscribed in where they are willing to meet and especially what they are willing to do with their bodies, with each other during these times of intense interaction, and what they are willing to express to each other during and after these conferences.

Despite the differences in the moral economy of conferences, they tend to be the basis for intense social solidarity that sustain relationships among people who are otherwise scattered across vast distances. For hackers, given the fierce celebration of some of their cons, they feel entropic—a cathartic release of laughter and pleasure, in which the daily rhythms and trouble of life can be placed aside. Yet these events work against entropy, sustaining unity all the while engendering new possibilities.

I end this article with one of the more famous quotes from movie history, the Wizard's demand during the climax of *The Wizard of Oz:* "Pay no attention to the man behind the curtain!" Dorothy's tiny dog Toto unwittingly opens a curtain revealing that the fearsome wizard is neither fearsome nor really a wizard. He is a sham: his magic is controlled by machines, and worse hidden behind a sheath of lies, obscurity, and secrecy. It is a particularly powerful scene, for it captures the sense of deep disappointment we have all felt at one time or another when we discover that something profoundly meaningful to us does not exist or work the way we imagined it.

I use this story and the quote because the sense of disappointment contrasts so starkly with the elation that follows many hacker cons. During the con, a curtain is also raised, but instead of seeing a diminutive wizard constructing a false sense of reality, hackers see themselves, collectively performing a world that, as far as they can tell, is an outgrowth of their practices, of their quotidian daily life, and of their deepest passions. The con enables hackers to see that it is not just themselves, alone at home pulling levers and punching buttons on machines behind the curtain, but instead the con enables them to pay attention to the other people who are also behind the curtain. The con acts like an internal "theater of proof" (Latour 1987) which powerfully states that this world, which is usually felt in unremarkable terms, is "as important to others as it is to me," a clear affirmation of the intersubjective basis by which we can conceptually posit any sort of lifeworld. Sometimes, as one sits at her computer, coding feverishly for a project, thousands of miles away from some of her closest friends and interlocutors, one has to wonder, "does this matter to others in the same way as it does to me? In what ways does this matter?" And more than any other event, the hacker conference answers with lucidity and clarity.

ENDNOTES

[1]I am including a number of photographs that visually complement my arguments about the importance of physical proximity and social interactivity among hackers. I would also like to thank the anonymous reviewers for their incisive feedback, Alex Dent and Micah Anderson who provided invaluable commentary, and all of the participants at these conferences who shared their time, stories, and perceptions with me during and after many of these conferences.

[2]https://gallery.debconf.org/v/debconf1/roland/aap.jpg.html

[3]While the media usually portrays hackers negatively as pathological information trespassers, here I use the term in a more mundane register to denote computer aficionados who self-adopt the terminology hackers and hacking. While the ethical uniformity of hackers is often overemphasized so as to elide the tensions that exist among them (Coleman and Golub 2008), they nevertheless share a number of technical and ethical commitments, such as a commitment to free speech, the nature and effect of which have been the topic of a burgeoning literature (see Kelty 2005, 2008; Nissenbaum 2004; Galloway 2004; Wark 2004; Himanen 2001; Thomas 2002; Levy 1984; Turkle 1984; Sterling 1992; Jordan 2008).

[4]By now, many have challenged the stark division between the offline and online worlds, an idea popular to posit in the early days of "cyberculture" studies (Miller and Slater 2001, Taylor 2006, Kendall 2001, Hakken 1999, Malaby 2009, Boellstorff 2008). However, in the literature on hackers and especially in journalistic accounts hackers are portrayed not only as online creatures but ones who live a solitary existence, a stereotype which is spectacularly false. Very little detailed attention has been given to

the ways in which physical co-presence among computer hackers, especially during extraordinary events, such as the hacker conference, works to sustain and nourish their virtual modes of interactivity and virtual production. For a discussion of the importance of conferences for gamers, see Taylor (2006).

[5]Though the geek cultural experience in the workplace has yet to be adequately addressed in the academic literature, its existence and importance are nonetheless documented aptly in comic strips such as *User Friendly* and *Dilbert*, which humorously depict the routine ebbs and flows of office life and are read by many hackers and geeks. As explained on one Debian developer's home web page, "Dilbert is a wonderful comic strip about the trials and tribulations of working in a corporate environment. Every computer geek, nay, everyone even vaguely involved in anything technological, should have this bookmarked." See http://azure.humbug.org.au/~aj/.

[6]For example the BALE (Bay Area Linux Events) website lists eight different meetings/events between March 1 and 8, 2005. See http://www.linuxmafia.com/bale/. In the last five years, hacker workshop spaces, such as Noisebridge in San Francisco, have been established in cities across North America and Europe. These are sociologically significant for they are places where hackers not only congregate to socialize but work collectively on the craft of hacking.

[7]While no hacker con can be called a tame affair, they do, however, exist on a spectrum, ranging from the large and wild to more subdued and intimate affairs. Most hacker cons mix socializing with hacking, gaming, and talks/panels, which span from the purely technical to the fabulously silly, with many legal, political and historical oddities and talks in between.

[8]http://gravityboy.livejournal.com/35787.html

[9]By this time, however, phone phreaking "party lines" and "conferences" were already commonplace. Phone phreakers—spelunkers of the telecommunications systems—not only gained (most often illegal) access to the telecommunications systems, but would also set up phone-based "party-lines" to chat, gossip, and share technological information. For a video discussion on these early phone conferences held in the 1980s and 1990s, see TProphet & Barcode's talk, "Phreaks, Confs and Jail " given at "The Late HOPE" conference in July 2008: http://securitytube.net/Phreaks,-Confs-and-Jail-(The-Last-HOPE)-video.aspx

[10]A BOF is an informal discussion group session scheduled during a conference. I have been told by multiple people that the bird reference is meant to signify that they, like birds, flock together. I have also been told that it may refer to the fable by Hans Christian Andersen to denote how an informal conversation can transform something small (like vague or incipient ideas) into mature and well-formed ideas. See-http://www.underthesun.cc/Classics/Andersen/ThereIsNoDoubt

[11]During the course of my research I attended Defcon 2002 (Las Vegas); Codecon 2002 (San Francisco) Debconf 2002 (Toronto), 2004 (Brazil), 2006 (Oxtapec, Mexico) & 2007 (Edinburgh, Scotland); LinuxWorld 2000/2001/2002 (Bay Area); Annual Linux Showcase 2001(Oakland); Usenix 2002 (San Francisco); Computer, Freedom, and Privacy 2002 (San Francisco); HOPE 2002/2004 (New York City); Forum Internacional Software Livre 2004 (Brazil); What the Hack 2005 (Boxtel, Netherlands). Compared to many geeks I knew, my attendance record in the conference circuit was fairly light to moderate. The following account is primarily based on fieldwork during the many Debian Debconf conferences I attended.

[12]Debian is currently the largest free software project in the world with over 1000 developers who maintain over 20,000 pieces of software that compose this Linux distribution. In 2000, Debconf0 was held in Bordeaux, France; Debconf1 Bordeaux, France 2001; Debconf2 Toronto, Canada; Debconf3 Oslo, Norway; Debconf4 Porto Ale-

gre, Brazil; Debconf5 Helsinki, Finland; Debconf6 Oxtapec, Mexico; Debconf 7 Edinburgh, Scotland; Debconf 8 Mar Del Plata, Argentina.

[13]Photo on file with the author (and taken by the author)

[14]http://media.debconf.org/dc7/report/

[15]https://www.flickr.com/photos/wouterverhelst/3816662387/

[16]Although there was no funding budget report-back required, the organizers at the last Debconf gathered a staggering amount of details, performed statistical breakdowns of participants, analyzed and summarized for no other purpose than to do it, which is not surprising given how important information is to the hacker technological lifeworld. At the Debconf4 there were 148 participants from 27 countries: Argentina, Chile, Peru, Mexico, USA, Canada, Australia, New Zealand, Japan, South-Korea, South Africa,Greece, Italy, Spain, France, Belgium, Netherlands, England, Northern Ireland, Scotland, Wales, Denmark, Finland, Norway, Poland, Austria, Germany. More specific stats can be viewed in the Debconf4 Final Report: http://www.debconf.org/debconf4/final-report.html

[17]http://listas.softwarelivre.org/pipermail/debconf4/2004-June.txt

[18]During smaller cons, such as Codecon or the developer cons, there is usually only one scheduled talk during one time slot. As such, a good chunk of participants get to witness and participate in most of the talks. The larger conferences, such as Defcon and Hope, are organized around panels, usually with two or three tracks, lasting all day, sometimes well into the night. As such, they usually have a much vaster range of topics and panels. The following are but a small sample of panels from the Hope 2004 conference: Building Hacker Spaces Binary, Bypassing Corporate Restrictions from the Inside, The CryptoPhone Cult of the Dead Cow Hactivism Panel, Friday Keynote: Kevin Mitnick, Hackers and the Law Hacking National Intelligence: Power to the People, Robert Steele, Lockpicking, Media Intervention via Social and Technical Hacking, Phreaking In The Early Days Privacy - Not What It Used To Be, Security, Liberties, and Trade-Offs in the War on Terrorism, Slaying the Corporate Litigation Dragon: Emerging the Victor in an Intellectual Property Cybersuit, Urban Exploring: Hacking the Physical World.

[19]https://gallery.debconf.org/v/debconf4/dc4-bubulle/aai_sized_001.jpg.html

[20]http://tinc.debian.net/

[21]http://bugs.debian.org/cgi-bin/bugreport.cgi?bug=252171

[22]For purposes of full disclosure, I organized this informal history roundtable as a BOF, which was attended by twenty-five people. I was inspired to do so, however, based on the fact that so many informal conversations between developers over meals were precisely on the "exchange of memory," and Debian developers also archive their history into a software package that comes with Debian.

[23]https://gallery.debconf.org/v/debconf4/roland-dc4/agv.jpg.html

[24]Email on file with the author.

[25]http://blog.madduck.net/debian/2007.06.25_debconf7

[26]http://media.debconf.org/dc7/report/

[27]http://www.flickr.com/photos/aigarius/569656268/in/set-72157600344678016/

[28]http://debconf.org/gallery/

[29]https://gallery.debconf.org/v/debconf3/wolfgangklier/amk.jpg.html

[30]http://media.debconf.org/dc7/report/

[31]http://media.debconf.org/dc7/report/

[32]http://listas.softwarelivre.org/pipermail/debconf4/2004-June.txt

[33]http://listas.softwarelivre.org/pipermail/debconf4/2004-June.txt

[34]http://media.debconf.org/dc6/report/

[35]http://www.flickr.com/photos/tiagovaz/3736458357/in/set-72157621707723876/

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