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21A.850J / STS.484J The Anthropology of Cybercultures  
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## **Student A**

I read *Two Bits* sometime last semester, and what I thought then was that one of the most striking things about Christopher Kelty's book is that he refrains from mentioning either Richard Stallman or Eric Raymond. Both are conspicuously absent from his descriptions, although he seems to be targeting Raymond when he discusses real anthropologists vs. pseudo anthropologists. Instead of providing a case by case study (mostly of only 3 or 4 examples) like many of the writings on FOSS, Kelty approaches FOSS as a phenomenon and as a whole. Kelty implicitly states that the studying of a movement is less about the studying of loud figures proclaiming the movement and more about the study of the movement itself. Here he is lucky, for the field of FOSS is inevitably extremely well documented, for all activities are transcribed. The so called alien tribe is easily studied by means of its own artefacts. As an anthropologist, it makes it very easy to make observations without disturbing the tribe.

Of the five core practices that Kelty identifies, only one is currently required for the 'general purpose label' of open source software. That is very unfortunate as far as I'm concerned, and I hope the other four (1: fomenting movements, 3: conceptualising open systems, 4: writing licenses, 5: coordinating collaborations) soon are incorporated into the trend.

In his study of FOSS practices, he observes that many of the attributes and endeavours of FOSS exist out of necessity, and not out of higher conception. Creative Commons came into existence when the term free was needed for objects which were not software, but then created a conflict when people started to creative commons license their software as well. Regardless, this movement of the free culture idea has clearly started to move into other fields where it will take on other forms, making the field that Kelty wishes to study broader and more inhabited.

Ross' article starts out promisingly, critical of the media-craze for the techno-voyeur that is the alleged 'hacker' and the viral/sterile/hygiene metaphor that is paired with it. But instead of a portrayal of actual computer culture, he writes about how the critics of the lack of cause in hacking are prematurely condemning hacker's political allegiances as non-existent. He then continues further on an elusive hacker culture, and finally uses the hacker trope as a motivational example to encourage technoliteracy in cultural critics.

Both Kelty and Ross seem to be encouraging cross pollination and inspiration from hacker or FOSS culture, but in very different ways. Kelty examining the notions of property and ownership, Ross examining the methods of unpacking and thwarting logic.

## **Student B**

Kelty's stance towards Free Software reminded me a great deal of Susan Newman's (1998) article. Her co-discovery of the shifting requirements during the standards-making process among vendors, suppliers, and other actors reminded me a great deal of the fluid nature of Free Software Kelty describes. The lack of history and constant redefinition of

terms and goals (“there are no “ready-to-narrate” stories that make sense of the practices of geeks today” p.65) parallels the ongoing construction of standards Newman witnessed. For Newman this condition led to her insight about how technoscientific practices are new settings for social science. Kelty goes much further and draws a broader theoretical conclusion about “recursive publics”.

The other really interesting theme in the excerpts we read from Kelty’s book are the many references to infrastructure. Kelty writes that geeks live in “a world of software, networks, and infrastructures” (p.77). Or in the introduction: "Recursive publics respond to governance by directly engaging in, maintaining, and often modifying the infrastructure they seek, as a public, to inhabit and extend..." (p.9-10) I'm really interested in the relationship between the public and infrastructure here because the scope of the public seems to shift. The connection to technical knowledge, for example, does not extend to all. And yet an important aspect of the infrastructures seems to be the necessary detailed, technical knowledge that is required to build them, on the one hand; and their importance as a substrate for a certain kind of social imaginary, on the other. I'm really interested in the intersection of material and social here. Are other practices of infrastructure building similar? Or is there something special about the Open Source or Free Software contexts? I'm also really interested in the difference between building infrastructure and extending it because they are very dissimilar and related to the historical evolution of systems as well.

One last question that I've been asking myself throughout the course is about the use of the word “imaginary”. It comes up all the time and I'm tempted to use it as well, especially as a counterpart for materials. But how does imaginary also conjure up ideology and imposition of imaginaries on other people? Where does the term come from? How should we use it? What is the relationship between the material infrastructures and their symbolic meanings? This topic gets particularly blurry I think because oftentimes the infrastructures themselves are used metaphorically and symbolically.

## **Student C**

I thought that the notion of a ‘recursive republic’ offered a powerful way to think about cybercultures in general. However, Kelty tends to make claims that go well beyond his data. For example in the introduction he writes:

*The significance of free software extends beyond the arcane and detailed technical practices of software programmers and “geeks” (as I refer to them herein). Since about 1998, the practices and ideas of Free Software have extended into new realms of life and creativity: from software to music and film to science, engineering, and education; from national politics of intellectual property to global debates about civil society; from UNIX to Mac OS X and Windows; from medical records and data bases to international disease monitoring and synthetic biology; from Open Source to open access. (p.2)*

I find this argument compelling but suspect. Why assume that ideas emerging from the 'free software' movement have somehow driven the cultural changes in science, education, engineering and politics? This appears to imply causation and privilege open source development culture as the source of cultural change. It diverts attention away from the diverse ways groups in different professions who might not identify themselves as 'geeks', 'polymaths' or 'transhumanists' are ceasing upon the affordances of emerging media forms that support distributed working practices to transform institutional cultures. Nevertheless, I do think the notion of a 'recursive public' offers a powerful way to think about self-regulating distributed communities who are collectively working to produce shared objects. This definition struck me as interesting.

*Recursive publics are publics concerned with the ability to build, control, modify, and maintain the infrastructure that allows them to come into being in the first place and which, in turn, constitutes their everyday practical commitments and the identities of the participants as creative and autonomous individuals. (p.7)*

Here the emphasis on 'recursion' draws our attention to the way these communities are continually shaped by their participants and also start to bite back and shape their participants identities and values. I feel like this is far more useful than Ito's *et al's* notion of a 'networked public' that fails to suggest the dialectic processes involved in community formation. In this respect, the notion invites us to think more carefully about the ethical and cultural dimension of open source development communities; a theme later developed through an analogy between geeks and Protestant Reformers.

I was also interested in a passage that draws our attention to the precarious relationship between open source cultures and existing structures of power. For example, where he writes:

*Recursive republic's independence from power is not absolute; it is provisional and structured in response to the historically constituted layering of power and control within the infrastructures of computing and communication. (p.9)*

I felt this point should have been developed. Indeed, I often wonder about the material circumstances that allow geeks to invest so much time and energy contributing towards open source development projects. Kelly continually emphasises the commitment of Geeks to an ethic of freedom, fairness and openness. For example, when he writes:

*Geeks create and modify and argue about licences and source code and protocols and standards and revision control and ideologies of freedom and pragmatism not simply because these things are inherently or universally important, but because they concern the relationship of governance to the freedom of expression and nature of consent. (p. 10)*

However, he fails to consider the material conditions that allow them to make such a commitment. This inconsistency put me in mind of Alexandre, a guy I interviewed for a study that explored students' informal use of new media.

Alexandre had been an active member of the [Battle of Wesnoth](#), an open source game development project. During interview he described how he had worked in the debugging room, how he spent several months translating the game into Hungarian and learnt all about the protocols of software development through participation in this community. I admired his resourcefulness. However, I was staggered when he confessed that he'd 'invested' an entire year of his life in this project. Nevertheless, as the interview developed it became clear that Alexandre was an entrepreneur. He had made a small fortune during his 20's and he had decided to apply to take a D.Phil in computer science with a view to meeting people with innovative ideas that had commercial potential. He had no particular ambition or interest in coding. However, he calculated that spending a year participating in the Wesnoth development community would be a great way to self-educate about the culture of open source development. The strategy worked. He succeeded with the application to the computer science department (self funded) and spent several years networking and identifying commercial spin-offs. He certainly seemed to admire the ethic of open source development and some might well describe him as a 'transhumanists' who seemed genuinely fascinated by the advance and long term benefits of technological innovation. However, he was only able to flirt with these ideas, values and commitments because he financially secure. I wonder how Kelty's pious Protestant Reformers supported themselves.

## **Student D**

I like the way Kelty noted the dichotomy of polymaths and transhuman that both embedded in geek. The pragmatist (sometimes fanatics) that constantly connecting technology to the network of everyday culture, and the Futurist that concern with the evolutionary of technology.

However, I'm not sure that religious allegory is suitable in framing the current polemic between the free software and the large corporate. --Although I personally sympathizes the open-sources community--. It is useful to compare the issue of management between the role of Catholic Church and the monarch to the role of large corporation to the government. But beyond that, the analogy might possibly go to a totally different territory that may lead him to the ambiguous traps of whether or not this allegory is still valid. In fact, Kelty realize this possible traps as he anticipated in p. 76, that this analogy doesn't meant to emphasize the doctrinal revolution, but the bureaucratic issue and the authorships of the religious properties.

So why use it in the first place? They produce a fundamentally different level of product. Catholic Church spread their belief systems as the way of life, whereas Microsoft sells their operating systems as the way of work. It's a very specific works, a subroutine of the larger way of life, using Kelty's word. Although most of the geek may regards Linus Torvalds as their prophet, the way people in majority believe in Christianity is totally different than the way consumer believe in Windows or Linux. People wouldn't mind change to UNIX or OS X Leopard if necessary, but they will be more reluctant converted to other religion. Kelty, indeed, understand this as he noticed in p.70, that there will always be 'the geek' and 'the rest of society'.

I believe the primordially on profession is highly valuable, especially in the case of fighting for the free software. The geeks may use any usable past as they like (Troy, Romans, Greek myth, or religious story) and labeling any person who they regards or disregards. It is always interesting to read the allegories from the past, but for the sake of dismantling the polemic between the open source and the large corporate, I'm afraid we may need a different framework.

## **Student E**

Kelty's account of the making of free software highlights geek's processes of construction of meaning through a variety of different ideological lenses and narratives and shows how important are the rhetoric devices through which members of a community define their identities –in relation to others, and not in isolation. In Kelty's account of geek culture the process of definition of these identities, the crafting of their stance, is a significant part of what work means for them; polymaths and transhumanists, in this sense, represent two opposite modes of belief (and of engagement) with technology, which fuel endless debates, constructive of geek culture.

Kelty's description of free software making reminded me of Turnbull's description of gothic cathedral making. They both underline the role of talk, of social interaction, and the nature of both endeavors as sites of experimentation in which new stories and traditions emerge. Turnbull's description of gothic cathedral construction sites as "laboratories" is useful here to describe a collective intensely social practice.

I liked the way Kelty discussed his stance as a scholar, with autonomy from a rigid disciplinary boundary "The questions I began with emerged out of science and technology studies, but they might end up making sense to a variety of fields, ranging from legal studies to computer science" (p.18), because it underlines a persistent attitude of looking at a problem from different angles, with some degree of independence, and guarantees that the work is not restricted to specialized circles. Two-bits goal is not to "understand" geeks, but to involve them in a conversation. Free software becomes an object of research insofar it "is a machine for charting the (re) emergence of problematic of power and knowledge as it is filtered through the technical realities of the internet and the political and economic configuration of the contemporary." (p.16)

The analytical concept "recursive public" serves the purpose of isolating a new political and economical actor that is described roughly as a self-regulating, self-conscious, self-maintaining, and self-modifying public that is only possible within the landscape of free software.

That said about the intellectual autonomy of two-bits, the work avoids staying at the level of theoretical critique (Habermas pessimism about the public sphere in the twentieth century is mentioned) and is largely based on an extensive and rigorous ethnographic research.

## Student F

I read this book last semester, but looking at the reading this week I am again struck by how Kelty is using the term “recursive publics” – a term he defines as “a public that is vitally concerned with the material and practical maintenance and modification of the technical, legal, practical, and conceptual means of its own existence as a public ... capable of speaking to existing forms of power through the production of actually existing alternatives.” One of the most interesting parts of Kelty’s work is his focus on modifiability and novel forms of coordination as forms of agency. Such coordination is clearly a result of computational capabilities that would be difficult to replicate without a network. However, I found myself wondering about the “recursive” in publics. I understand “material and practical maintenance” to suggest a collection of individuals who are almost all tightly involved in the material production and practices of software creation, which is to say programmers (and lawyers?) but am less clear how we might place this in an historical context.

As Student B quoted in their response, Kelty writes that a recursive public “respond to governance by directly engaging in, maintaining, and often modifying the infrastructure they seek, as a public, to inhabit and extend...” (p.9-10) – is this substantially different than RFP’s put out by organizations like the IETF in the 1980s? Is the difference one of scale, ie the number of people who are part of the editorial process? And how might this recursive public compare to what Fred Turner terms network forums in *From Counterculture to Cyberculture*? Through meetings, publication, and (later) digital networks, individuals who contributed to the Whole Earth Catalog and the WELL began to meet, collaborate, and imagine themselves as members of a single community – ie public. I understand this public as one comprised of journalists and activists that worked alongside (on top of?) but not necessarily the technologists who actually built the protocols and infrastructure of the Internet (Vint Cerf et al). As Kelty describes the very loosely knit movement, it seems as if he has either drawn a wide enough boundary to include both groups or consider them to be one and the same.

In response to Student B’s note about infrastructure, something I am also quite interested in these days, I found on this reading that I’m less clear about the relationship that Kelty draws between modifiability (and modulation) and the notion of infrastructure. Kelty writes, “Modifiability is an imperative for building infrastructures that can last longer” and “long-settled, seemingly unassailable practices – like the authority of published books or the power of governments to control information – are suddenly ... denaturalized by the techniques of modifiability.” However, if we draw on Paul Edwards’ research on infrastructures, this statement doesn’t seem as clear. Edwards argues that an examination of infrastructures on different scales of force, time, and social organization and results in an understanding of infrastructures as “a constantly changing social response to the problems of material production, communication, information, and control.”

What does it mean to suggest building “infrastructures that can last longer?” I suspect that Kelty is referencing Bijker’s idea of technological stabilization, when a technology

becomes socially and technically “set” and unmovable. If this is the case however, I’m not sure that Kelty clearly defines the relationship between sociotechnical shifts of a technology and modulation. And do these recursive publics represent a particularly powerful – or emergent – movement or should they be understood within a larger history that extends beyond the 1980s?

Finally, and partly in response to Student C’s sense that Kelty’s work implies that the “ ideas from the ‘free software’ movement have somehow driven the cultural changes in science, education, engineering and politics,” I find myself once again drawing on the core of Turner’s work that queries how it came to pass that members of the Whole Earth network “were welcomed into the halls of Congress, the boardrooms of major corporations, and the hotels of Davos”(p7) [and led then Vice-President Al Gore to get advice on the Internet from former Grateful Dead lyricist John Perry Barlow] and later, via the Global Business Network, gained access to the boardrooms of the most powerful corporations. I guess here I’m suggesting that I am willing to accept that the public nature of the movement tends to subsume the work of actors who are not associated with the culturally powerful movement.

I still found myself wanted to draw a deeper connection – if there is one – between the global reach of Turner’s new communalists and the open source movement. This morning brought news that Larry Brilliant (co-founder of the WELL) is leaving his position as chief Internet evangelist at Google.org to join the Skoll Foundation’s new Urgent Threats Fund. The group has pledged to take on five of the world’s problems - climate change, water scarcity, pandemics, nuclear proliferation and Middle East conflict. This is noteworthy in relationship to this discussion because the multi-disciplinary and global approach of the fund (and choice of Brilliant) clearly references Bowker’s “universal discipline” and “legitimacy exchange” and Turner’s “network forums” --- what, if anything, might we pull from Kelty’s recursive publics?

## **Student G**

### **"The inmates are running the asylum"**

*And you can call that a religious belief if you want, it’s not rational. But I guess what I’m willing to say is that traditional healthcare that’s not technology based has pretty much run out of steam. (Page 81)*

What makes this current "technology" so different? Faxing and transmitting prescriptions is not technology based? Aren't our desks and M&Ms we eat technology based?

There seems to be this assumption that there is something so fundamentally different or special about the internet technology of today.

Could this possibly have something to do with who has recently gained the voice and channel? Could it be because more techphiles are speaking than ever before? Could it be because the tech-biased nature of our current culture? "Geeks" of olden times were not



journalists, writers, advisors or sponsors to politicians. Now the geeks are the bloggers, writers, video producers. Could the inmates be running the asylum?

I am borrowing this phrase from Alan Cooper's book that emphasizes user-centered design, as a response to the then-common phenomenon where developers designed software user interfaces (geeks designing everything, making decisions they should not be making). Some quotes from the Google Books result:

*The Inmates Are Running the Asylum argues that the business executives who make the decisions to develop these products are not the ones in control of the technology used to create them ... how talented people continuously design bad software-based products and why we need technology to work the way average people think. ([Source](#))*

### **Open source decision making?**

For that matter, what makes open source organizations so different from "conventional" organizations wrt its organization and product decision making process?

*James Boyle has also noted the recursive nature, in particular, of Free Software: "What's more, and this is a truly fascinating twist, when the production process does need more centralized coordination, some governance that guides how the sticky modular bits are put together, it is at least theoretically possible that we can come up with the control system in exactly the same way. In this sense, distributed production is potentially recursive." (Page 30)*

Really?? I'll believe it when I see it in practice.

Creativity and production decision making models I've catalogued so far...

Apple or Peter Jackson

- One person holds a clear and coherent vision
- Swarm and loads of people executing
- The visionary is known to be very anal and urge the team to increase the quality
- Results in high quality outcome
- Common in the movie industry, example: Peter Jackson and the Lord of the Rings franchise
- Not common in technology, Apple may be the only example I am aware of
- Bill Buxton made an argument that software design should be more like the Hollywood process (his job talk at Microsoft Research in 2005 I saw), but he did not have concrete ideas how to.

IDEO early days (based on the folk legend/corp culture myth)

- Several personal friends with a few useful connections having fun in the garage

- Supported by unusual market circumstances, advent of the Silicon Valley which allowed them to start with high profile projects such as Apple Mouse
- Typically starts with a triad or a partnership, evolves into an oligarchy (a corporation called NHN, Korea's equivalent to Google, and IDEO, to a certain extent)

Microsoft (most products, including Office)

- Everything through negotiation. Microsoft's Program Managers are evaluated based on whether their feature ships with the product or not.
- Founder or owner does not have a definitive say to the decision making on the creative or product level. For example, Bill Gates is once said to have told the PowerPoint team that he'd fire everyone unless the team fixes an anti-aliasing problem. But since BillG wasn't actually involved in the employee evaluation or feature decisions at the product level, no one took the thread seriously enough.
- Results in products that look like a loose collection of small features that are not coherent.

Is Mozilla different? I doubt it, at least, the job calls I see from Mozilla are not very different or significantly more democratic than most tech or software jobs I would find, albeit the extra "we are ideologically attractive" statement you'd see [here](#) for an example. Instead of the job looking different, the job came with the "we are different and good" tagline.

Leach Buechley, who developed an open source DIY microcontroller kit called Lilypad, has mentioned that she had to manage constant feature creep throughout the process. Feature creep happens to be one of the biggest problems Microsoft product teams face.

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I think the current technology and open source organizations are special only if you take on one particular perspective or angle of view and don't iterate your angle. I believe they are not so different or special in most other regards. I believe many many special and interesting things come from not-so-flashy teams or manifestos.