

The Free Software Foundation and the Free/Open Source Software (F/OSS) Social Movement

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The Free Software Foundation was formed in 1985 by computer programmer Richard M. Stallman. FSF is but one organizational manifestation of a much broader movement for free or open source software (F/OSS). F/OSS is one of the most important and influential communication-information policy related social movements of our time.

The Free Software Foundation (FSF) was chosen as the focal point of this case study for several reasons. First, Stallman and FSF were among the earliest pioneers of the movement and thus provide a good point of entry for understanding its politics and evolution. Second, FSF is the most ideological and political of the F/OSS organizations. The wing of the F/OSS movement that is led by FSF asserts that there is a direct connection between “free software” and a “free society,” and self-consciously characterizes itself as a “social movement.”¹ Consequently, FSF has a greater propensity to link the technical community of F/OSS programmers with other advocacy groups involved in communication-information policy (CIP). Third, Stallman and several affiliated European and Latin American free software advocates have been active in the World Summit on the Information Society (WSIS) civil society caucuses. Other F/OSS organizations have not. While the case focuses on FSF as an organization the analysis must, of course, situate it in the context of the F/OSS movement as a whole.

The F/OSS phenomenon is one of the most important communication-information policy related social movements because it has, to a degree unmatched by other advocacy efforts in CIP, pioneered *new economic institutions*. It has reordered human interaction patterns around information technology in ways that are proving to be *feasible, sustainable, replicable* across a variety of contexts, and capable of generating significant changes in the *distribution of economic benefits*.² The anchor of institutional change is the software licensing concept embodied by the GNU General Public License (GPL). The GPL, sometimes known as “copyleft,” contractually keeps software from being exclusively owned. As an outgrowth of its legal innovations, the movement has also pioneered new organizational forms. F/OSS software development projects are not organized as normal business firms relying on wage labor and a formal management hierarchy, but as open, voluntary development teams. Together, the legal and organizational innovations

¹ In distinguishing the free software movement from the open source movement, Stallman (2002) wrote, “*Open source is a [software] development methodology; free software is a social movement.*” See also Zimmermann (2004); Escher (2004), and Healey and Schussman (2003) for discussions of free software advocacy as a social movement.

² For a more detailed discussion of institutional change as the benchmark for social movements and advocacy, see Mueller, M., B. Kuerbis, et al. (2004). *Reinventing Media Activism: Public Interest Advocacy in the Making of U.S. Communication-Information Policy, 1960-2002*. Syracuse, NY, The Convergence Center.

constitute “an experiment in social organization around a distinctive notion of property.” (Weber 2004)

The free software movement’s key institutional concepts have proven to be translatable and portable to other modes of social interaction involving information – a sure sign of their potency in catalyzing change. Numerous efforts to promote change in access to information, such as the Creative Commons initiative, were inspired and guided by the example of F/OS software. The “open source” development method has been extended to other modes of publication, from books and encyclopedias to educational materials (with varying degrees of success). This capacity for translation of its property rights paradigm into broader areas, which we call *replication*, is discussed in section 4.1.

While somewhat clumsy, the terminological distinction between “free” and “open source” software cannot be dispensed with, as it corresponds to an important conceptual and political division in the associated social movement. The rift is real and important, but the two sides of the division are so closely related historically, professionally, and ideologically that it makes sense to view them as branches of the same phenomenon. Hence, one must stick with the conjunction “F/OS” (free/open source) rather than picking one or the other label, or collapsing them into some third alternative. “Free software” is defined in section 1.1 below; the coining of “open source” as an alternative label is explained in section 2.2 below.

1. Identity & Historical background of the F/OSS movement

1.1 Definition of free software

Free software is, as the founders of the movement have been forced to reiterate constantly, a “matter of liberty, not price.” Free software grants users the right access the underlying source code of a program and to run, copy, redistribute, study, change, and improve the code. In order to secure these rights, free software is released under a license designed to contractually bind all users and derivative software programs into preserving the same freedoms. The license, based on copyright law, is often called “copyleft;” as Stallman puts it, “Instead of a means of privatizing software, [the license] becomes a means of keeping software free.” (Stallman 2002) That does not, however, prevent developers from selling copies of the software for profit or from commercializing services associated with software. The F/OSS movement as a whole is not anti-commercial and FSF claims not to be also, although FSF is hostile to proprietary commercial software in principle.

The first copyleft instrument was the GNU General Public License (GPL). GPL was invented and refined by the Free Software Foundation in the mid- to late-1980s. Many variants on the concept exist, however. In 1997 the common elements of all open source licenses were distilled by Bruce Perens into the Debian Free Software Guidelines, which later evolved into the Open Source Definition (OSD).³ As Weber (2004 p. 111-115)

³ <http://www.opensource.org/docs/definition.php> For a discussion of the difference between the BSD and GPL licenses, see Nikoai Berroukov, Labyrinth of Software Freedom, http://www.softpanorama.org/Copyright/License_classification/index.shtml

notes, the working out of what constitutes “open source” or “free” software around 1996-1997 was a process whereby the community cemented its identity. That process of self-realization, however, also led to the split between the more pragmatic and moralistic camps, which is described in section 2.2 below. The differences center on whether free software must be redistributed under the same terms as the original license, or whether the license allows it to be appropriated into commercial, proprietary software.

1.2 The political and economic significance of free software

The F/OSS movement’s focus on the internal workings of computer programs may seem too technical and obscure to be of great social significance. While the importance of software freedom can be overstated by some movement adherents, the issue is neither arcane nor overly technical. As Lessig (1999) famously argued, the functionality of today’s information and communication environment is determined primarily by software or “code.” Lessig’s ambitious extension of that argument into the dictum that “code is law” has been largely refuted, however. It is clear that law, politics and institutions can and often do override or pre-determine software and other technology design decisions.⁴ Nevertheless, in today’s information environment access to code and the freedoms that are enabled by that access are not trivial.

The F/OSS approach applies the values of transparency and accountability to the code that drives IT devices and networks. In doing so, it emphasizes the rights and freedoms of the users of software, as opposed to the rights or interests of suppliers. With its base in the software development community, however, the movement’s concept of a “user” is often more applicable to the technically sophisticated programmer than to the ordinary household consumer of ICT products and services.

The free software ideology dovetails naturally with resistance to intellectual property maximalism in the digital environment. The attempt by copyright owners to control or prevent copying can lead to intrusive regulation of hardware and behavior. By “reversing” copyright in the critical domain of software, the GPL provides a practical institutional mechanism for creating a commons in software and limiting the impact of exclusive rights. It accomplishes this without the need to lobby captured government agencies and legislatures. Stallman and other free software advocates have articulated strong and well-developed arguments against software patents. They have also expressed opposition to the anti-circumvention provisions of the Digital Millennium Copyright Act, digital rights management measures, the WIPO treaty on Trade-Related aspects of Intellectual Property (TRIPS), and proprietary technology standards generally.

⁴ For example, purely technical efforts to protect copyright via digital rights management have proven to be insufficient; the Digital Millennium Copyright Act relies on legal sanctions on “circumvention” to protect them. In the U.S. Federal Communication Commission’s “broadcast flag” regulation, law tried to dictate “code,” but that effort was overturned by the courts, indicating the superiority of law once again. Another example is the introduction of Caller ID services in the 1990s, where the signaling technology made it possible to develop services based on the display of the calling number, but political advocacy around privacy rights imposed limits on that capability before Caller ID could be implemented.

The GNU and Linux projects have also had an impact by striving to provide a viable alternative to Microsoft's dominance of the software operating system and application markets. As an alternative to Microsoft, F/OSS is having an important effect on the evolution of the information industries, attracting the support not only of developing countries and critics of big corporations but also of governments and major industry players such as IBM, Sun, and AOL Time Warner.

In poor and developing countries, free software has an even greater economic significance. It lowers the cost of participating in the information society, allowing users there to avoid the licensing fees and royalties associated with copyrighted or patented software. It also facilitates knowledge/technology transfer by revealing the code and permitting experimentation with it. Among developing countries, acceptance and advocacy of free software is thus linked strongly to resistance to patents and copyrights.⁵ An example would be the August 2004 initiative by governments of Southern countries, led by Brazil and Argentina, to promote a "Development Agenda" at the World Intellectual Property Organization (WIPO).

2. History and development of the community

Although the social base of F/OSS is located in what might be considered a narrow community – software programmers (or "hackers," as they prefer to call themselves) – that narrowness reinforces its cohesiveness and contributes to its strategic power. Software developers constitute an epistemic community compact enough to permit the global propagation of common norms and modes of organization. And they can directly affect the performance and features of communication and information products and services. Research indicates that F/OSS developers exhibit a collective identity and that most of them are conscious of the social relevance of F/OSS and see their engagement as being of a deliberately political nature (Escher 2004). Studies of the national origin of developers conducted in 1999-2000 indicate that it is a highly transnational community, with individuals from at least 30 countries involved.⁶ While small numerically, numbering in the hundreds of thousands at most,⁷ the F/OSS community is strategically positioned to shape the way broader publics interact with information technology.

⁵ From choike.org: "A case study produced by the UNCTAD-ICTSD Capacity Building Project on IPRs and Sustainable Development (May 2004) claims that 'intellectual property protection' have erected a clear barrier to the spread of software across the South. It also states that free software formats might offer advantages for technology transfer and that they are not a mere policy choice for developing countries but an important alternative for building, maintaining and changing rules that govern information flows." http://www.iprsonline.org/unctadictsd/docs/CS_Story.pdf

⁶ The countries are overwhelmingly "Northern" and Western, with the USA numerically dominant but northern European countries such as Finland, Germany, Denmark and the Netherlands most strongly represented on a per capita basis. However, later studies indicate that Asian involvement began to grow after 1999.

⁷ Weber (2004, p. 66-67) cites studies in 1999 that identified slightly more than 3,000 discrete open source projects in which about 12,700 identifiable developers were participating, and estimates that another tens of thousands developers made smaller, unidentifiable contributions.

2.1 Origins of the free software concept

The free software movement was started in the early 1980s by Richard Stallman. With his material base in a university research institute, the MIT Artificial Intelligence labs, Stallman, like many other hackers, became acculturated in the 1970s and early 1980s to an ethic of sharing and freedom from organizational hierarchies. In the early 1980s, the software developed in these research labs was becoming a valuable business asset, and began to be protected in various ways; e.g., by withholding the source code from publication, by binding programmers with nondisclosure agreements, and through copyright protection. Stallman was deeply angered and felt “victimized” by his initial encounters with the proprietization of software. (Williams 2002 p. 9-12) He viewed the refusal to share code not in practical or policy terms but as a moral issue, a violation of the basic ethical command to “do unto others as you would have them do unto you.” Around 1982 he broke off his employment relationship with MIT and worked out his basic ideology of “free software.” In September 1983 he publicly announced on Usenet a free software development project known as “GNU.”

The Free Software Foundation was formally incorporated by Stallman and some close acquaintances in 1985. Stallman worked with several intellectual property attorneys to develop the GNU license. As a precedent, he had the BSD license, which was created in 1979 for the distribution of the first free/open version of Unix software developed by the University of California at Berkley.⁸ The BSD license, however, did not prevent its users from establishing proprietary rights over later derivatives. In developing the GPL instrument, Stallman’s goals were to keep the software as open as possible and to require others to adopt the same licensing practices. This would encourage “viral” dissemination of the software in a way that could only expand, not contract, the software commons. (Williams 2002 p. 124) Other communities that could be characterized as free software developers, notably the BSD Unix developers at Berkeley and the Internet Engineering Task Force (IETF), also evolved in the 1980s. Though none of them self-consciously developed the principles and legal instruments to advance free software as a cause, they did play a critical role in working out the methods of distributed, voluntary communities supporting software and standards development.

Throughout the 1980s, as companies started to close off access to Unix source code, the popularity of Stallman’s ideas grew and an increasing number of hackers started to place the programs they developed under the GPL. By 1990, however, the GNU project’s success was severely limited by its failure to develop a complete operating system with its own kernel, the program that allocates access to the central processing unit among other programs. This problem was overcome by the unanticipated emergence of Linus Torvald’s Linux operating system. Torvalds licensed his efforts under the GPL and around 1994 the two came together into GNU/Linux.

2.2 The Fork in the Movement (FS/OS)

The rise of Linux revived free software’s fortunes, but also precipitated a split in the movement. Torvalds, Eric Raymond, Tim O’Reilly and others began to emphasize the

⁸ <http://www.freebsd.org/copyright/license.html>

practical aspects of free software as a development methodology and an alternative to Microsoft's dominance. To some extent, they also became frustrated by the difficult personality and ideological intransigence of Stallman. The debates around the labels "free" or "open source" software can be traced to this moment. The term "open source" was consciously developed and adopted by the pragmatic group (led by Linus Torvalds, Eric Raymond, and Bruce Perens, among others) to differentiate itself from the advocates of "free software" associated with Stallman and the FSF. "Open source" was considered a clearer and less political label, more appealing to the business community. The branch was widened by the efforts of Netscape in 1998 to open its source code to the developer community. The pragmatists viewed this effort, which became the Mozilla project, as a major opportunity to establish the credibility of open source among the business community and to mount a stronger challenge to Microsoft's dominance. The pragmatic group organized itself around the Open Source Initiative (OSI).⁹

If one compares Stallman's definition of *free software* to the OSI's definition of *open source* software, one finds only one major difference. Free software requires reciprocity; that is, those who incorporate its source code into a derivative product must license the whole product as Free Software. Open Source, on the other hand, does not require reciprocity; point 3 of the open source definition allows it but doesn't require it. Thus open source licensed code may be incorporated into proprietary software.

That difference in licensing reflects the different motivation of the participants, and underscores the degree to which free software advocates have a larger socio-political agenda. The difference in attitude between the open source advocates and free software advocates is encapsulated by this statement on the Open Source Initiative web site:

"The Open Source Initiative does not have a position on whether ideas can be owned, whether patents are good or bad, or any of the related controversies. We think the economic self-interest arguments for open source are strong enough that nobody needs to go on any moral crusades about it."¹⁰

FSF very much emphasizes "moral crusades" and principles. While this limits its appeal to a smaller group, it gives it a greater capacity to generate sustained collective action around political and policy issues. It also fosters a more ideological and at times sectarian method of participating in politics. According to one movement participant, the split with the Open Source advocates had a major impact on the movement's identity and style of politics, hardening it into an uncompromising stance.¹¹

⁹ <http://www.opensource.org>

¹⁰ Open Source Initiative FAQ, <http://opensource.planetjava.org/advocacy/faq.php>

¹¹ "[T]he identity of the FSF, at least in the past 5 years, is forged in its internal conflict with the "open source" types. This conflict has placed the 'compromising' OSI against the 'principled' FSF, hardening both positions (if one can harden into compromise). That dynamic is, it seems to me, being carried over to the international [politics] such that the FSF's *raison d'etre* (and thus default or 'snap-back' position) is 'no compromise' (whether that be on terminology, process or technological platforms)." James Howison, personal communication with author, January 29, 2005.

2.3 Organization and governance

The F/OSS community as a whole is characterized by voluntary association and voluntary task selection. Within this context of free association, meritocratic hierarchies evolve organically around specific projects. (Healy and Schussman 2003; Weber 2004; Crowston and Howison 2005) Eric Raymond (2001) has analyzed the culture and norms of open source projects and how they translate into specific rules and taboos regarding the sharing and development of software. He was the first to characterize it as a “gift economy” based on peer reputation, and the first to apply Lockean concepts of property acquisition through homesteading to explain the control structure of F/OSS development projects. Software development projects, though open to anyone’s participation, tend to be “owned” by a leader or small core group that controls its official public releases.¹² The community is overwhelmingly (98%) male, an aspect about which the burgeoning sociological literature on F/OSS offers no explanation.

The F/OSS community is polycentric, with several half-competing, half-cooperating gurus serving as leaders of different developer communities focused on different types of software. Whereas the ideological/political aspect of the movement centers on Stallman and FSF, the “pragmatist” wing of the F/OSS community tends to view Linus Torvalds as its overarching leader. However, Raymond (2001, p. 71) notes that by the mid-1990s:

“Other semi-independent communities with their own self-consciousness and charismatic leaders began to bud from the Unix/Internet root stock. Of these, the most important after Linux was the Perl community under Larry Wall. Smaller, but still significant, were the traditions building up around John Osterhout’s Tcl and Guido van Rossum’s Python languages. All three of these communities expressed their ideological independence by devising their own, non-GPL licensing schemes.”

The Internet Engineering Task Force (IETF), which plays a critical role in governing standards-setting for the Internet, has the same socio-economic roots as the F/OSS communities and is also a status-based hierarchy. Its organizational home is the Internet Society, another nonprofit corporation. As it matures, IETF is becoming increasingly formalized organizationally and, through ICANN, linked to harder forms of governance power. (Mueller 2002) One of the key personalities there is Paul Vixie, principal author and maintainer of the BIND software that runs most of the world’s domain name servers. The Apache Foundation, which maintains the free software that runs on two-thirds of the world’s web servers, is another important center of F/OSS activity.

¹² “[The] hierarchy is not a formal organizational chart but rather (we conjecture) a status-based pecking order which is known to [software development] project participants and serves as a way of policing members.” Healey and Schussman (2003) Crowston and Howison (2004), however, note that the level of participation in projects varies greatly, with some being highly “centralized” (only a few participants) and others very decentralized (many participants). Their measure of participation, however, does not necessarily contradict Healey and Schussman’s belief that the project’s core control is exercised by a small group or an individual.

3. The Free Software Foundation

The Free Software Foundation (FSF) is a 501(c)(3) non-profit organization based in Boston, Massachusetts, USA. FSF provides an organizational home for the GNU software development project and for Stallman's free software promotion activities. The Foundation is one of the organizational centers of the F/OSS movement. Its centrality in the F/OSS network, as assessed by hyperlink analysis, is shared with the Open Source Initiative, The Apache Foundation, and a cluster of Linux-related sites (Linux Online, Debian, Linux Kernel Archives, Slackware, Red Hat). This dual centrality corresponds to the fork between the pragmatic and political tendencies of the movement discussed above.

3.1 Governance and structure

FSF's structure is very simple. Its governance is controlled primarily by Stallman, its founder and president. Support for it is built primarily around Stallman's reputation as a programmer, ideology and charismatic appeal.¹³ FSF's Board consists of six men (Table 1). New board members are nominated and agreed upon by the current board members. Lawrence Lessig was added to the board recently. Compared to other OSS organizations, the FSF board's composition reflects a more political-activist and ideological bent. Although the three officer positions are held by computer scientists (Stallman as President, Knauth as Treasurer, and Sussman), it also includes two activist law professors (Lessig and Moglen¹⁴) and a director of a "grassroots campaign technology consulting firm" (Poole).

FSF has nearly 2000 associate members. There is a student rate of \$60 a year, but the normal rate is \$120 a year to support the foundation. Associate members are non-voting and play no formal role in the Foundation's governance. In addition to the people who have formally associated themselves with the foundation as members, there is an international network of GNU/Linux user groups in 21 countries including the USA.¹⁵ As far as one can tell, FSF has no formal conditions for accrediting or de-accrediting user groups.

¹³ E.g., associate members are offered as a joining inducement the exciting prospect of having Stallman send them a voicemail.

¹⁴ Moglen, however, has a computer programming background himself. With his (at the time) unusual combination of computer science and legal skills/knowledge, Moglen was a key figure in the fight against the clipper chip and against the government's efforts to suppress encryption technology.

¹⁵ For a list, see <http://www.fsf.org/gnu/gnu-user-groups.html>. The list, while impressive in its own right, is small compared to the number of Linux user groups, which includes over 600 groups in 112 countries; see <http://www.linux.org/groups/index.html>.

Table 1: The FSF Board

President:	Richard M. Stallman
Treasurer:	Geoffrey Knauth, Senior Software Engineer at SFA, Inc.
General Counsel:	Gerald Sussman, Professor of Computer Science at the Massachusetts Institute of Technology
Directors:	Henri Poole, Founder of CivicActions, a grassroots campaign technology consulting firm Eben Moglen, Professor of Law and Legal History at Columbia University Lawrence Lessig, Professor of Law at Stanford University

Since 2000 Stallman has taken his message global, traveling to different countries and giving speeches on various political and policy topics, most having to do with intellectual property.¹⁶ As a result, the Free Software Foundation has spawned directly affiliated sister organizations in Europe and India. FSF Europe, started in 2001, is the most formally organized; it is composed of Germans, Austrians and Italians and is registered as a charitable association in Germany. Organizationally, FSF Europe is composed of different people and is a different legal organization, but it follows the same philosophy. Moreover, its leaders view Stallman as their leader and its participants invariably follow his line when engaging in political activity. FSF India is another offshoot of FSF. It calls itself an “official affiliate” that was “formally inaugurated by Richard Stallman” in 2001. Its website lists 18 people as participants. FSF Europe has been active and visible in WSIS; FSF India has not. There is some talk about starting a Latin American chapter; where there is a cohesive set of FSF adherents there but as yet no formally affiliated organization.

3.2 Finances

The FSF had revenues of \$750,000 and total assets of \$813,000 in fiscal year 2003. Seventy-eight percent (78%) of its revenues came from contributions in the form of associate memberships and corporate patrons. Another 20% came from sales of merchandise, such as software on CDs, software manuals, books, clothing and accessories. FSF receives no government money. Corporate patron annual dues range from \$500 - \$25,000 depending on the number of employees in a company. 48 patrons are listed on the foundation’s web site as of Jan 2, 2005, ranging from industry giants (IBM, Cisco, Novell, Google) to small Linux-oriented enterprises.

A visible trend in FSF’s finances is greater reliance on associate memberships and corporate patrons than on merchandise sales. Associate membership is relatively new as a revenue source. In 1998 and 1999, when its overall revenue was about the same as in 2002 and 2003, the foundation received almost half of its revenue from merchandise sales. The 50/50 ratio has changed to 80/20 over the years. This change corresponds to the increasingly political character of the foundation; i.e., it is sustained less and less by

¹⁶ According to Williams (2002, p. 64) Stallman spent only 12 of the 115 days before Williams’ interview with him in the United States, visiting India, China and Brazil.

individual free software enthusiasts' purchases of software and merchandise and more by donations to a cause. FSF Europe has a budget of about \$60,000 Euros annually. It receives about \$15,000 Euros of that from the European Commission.

4. The New Phase

Starting around 2001, the success and proven sustainability of the F/OSS movement pushed it into a new phase of its evolution. Activists outside the software developer community, inspired by its model of institutional change, began trying to extend the concept of contractually-constructed commons into new areas. At the same time, while many F/OSS organizations stick to their knitting and continue to develop and extend free/open source software programs, the FSF seems to be de-emphasizing its original software development activities and pursuing a political and policy agenda that brings it into closer contact with other social movements around CIP, especially those dealing with intellectual property issues. In this section, we discuss these two manifestations of change. The first process we refer to as *replication*, or the extension of the GPL licensing model into new areas; the second process we label *convergence*, the intersection of the F/OSS movement with other CIP-related advocacy organizations and movements. The discussion of convergence focuses in particular on WSIS, which of course has served as the point of intersection for many CIP-related issue networks and movements.

4.1 Replication

The success of F/OSS in constructing a productive community around specific licensing regimes and governance structures has made it into a model for other efforts at social change. (Coleman and Hill 2004) This short case study is not the place to catalogue and explore the development of all replication efforts; here we mention only a few of the most important ones.

Most of the replication is occurring in the area of information content. New licenses seek to make various kinds of content – such as educational resources or artistic works – part of a commons that can be freely copied and distributed, while attaching restrictions on efforts to charge for or exclude others from the content. Examples include:

- Open Content License. The OCL, created in 1998, is one of the oldest replication efforts. It specializes in educational resources. It developed its own licenses, the Open Content License and the Open Publication Licenses, which give rights to copy and distribute, restrict charging, and require notice or credit for authors.¹⁷
- Creative Commons. Founded by the Center for the Public Domain, Lawrence Lessig, James Boyle and others in 2001, Creative Commons offers template copyright licensing forms that can be used by artists, musicians, writers, filmmakers, etc., to offer the public more expansive copying and redistribution rights.¹⁸
- GNU Free Documentation License. This license, developed and offered by FSF, is intended to provide any user the freedom to copy and redistribute software

¹⁷ <http://www.opencontent.org/opl.shtml>

¹⁸ <http://creativecommons.org/about/licenses/>

documentation, with or without modifying it, either commercially or noncommercially. It also preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.¹⁹

- Open Game License. The OGL requires games game rules and materials that use game rules to be freely copied, modified and distributed, and ensures that material distributed using the license cannot have those permissions restricted in the future.²⁰

Some replication efforts attempt to recreate, in a new context, the open development methodology of the F/OSS community as well as its legal tools. The Wiki model, for example, allows documents and content to be modified on an ongoing basis by communities, and keeps track of and credits the changes. The most well-known product is the Wikipedia. Another innovative replication proposal involves scientific databases. In both Europe and the USA there have been legislative efforts to extend copyright protection to databases. These have raised serious concerns about restrictions on knowledge and inappropriate ownership of facts. Reichman and Uhler (2003), drawing on F/OSS models and in particular the GPL, have proposed “a contractually reconstructed research commons for scientific data” as a means of addressing this problem.

Along with success and replication has come criticism. Some legal scholars (e.g., Elkin-Koren 2005) have raised ideological criticisms of the contractual model of institutional change because of its basis in individual property rights. Others (Elkin-Koren 2005; Urban 2005) have also questioned the sustainability and stability of the contractual regime, using technical legal arguments about the applicability of contract terms across longer chains of transactions and time periods, and the transaction costs imposed by the proliferation of non-standardized contracts.

4.2 Convergence: FSF in WSIS and other international arenas

As FSF broadens into the focal point of a political cause rather than the nexus of a software development community, its activities have intersected with, and started to resemble more, a transnational advocacy organization.

With the addition of Lessig to its Board, FSF cemented ties to the intellectual property resistance associated with Creative Commons and the Electronic Frontiers Foundation (EFF). Lessig is a Board member of the EFF and one of the founders of Creative Commons. Stallman has also had a long term collegial relationship to John Gilmore, one of the founders of EFF. Free software adherents played a significant role in pushing the World Intellectual Property Organization (WIPO) toward a “development agenda” that emphasizes the role of knowledge in development rather than merely promoting protection for rights holders. Both Stallman and Lessig were in Geneva for the Transatlantic Consumer Dialogue-sponsored conference on the future of WIPO organized by the Nader organization Consumer Project on Technology (CPTech). CPTech is

¹⁹ <http://www.gnu.org/licenses/fdl.html>

²⁰ <http://www.opengamingfoundation.org/>

directed by James Love, who has been active around drug patent issues in the transnational arena.

As transnational advocacy organization FSF and its offshoots often seem inexperienced and out of their element. Influence has come more from the appeal of their principles to other, more effective actors than from strategic moves of their own. FSF's strongly developed ideology, its organization around a charismatic leader, and its roots in a closely-knit computer programmer culture that values logic and precision make its behavior in the diverse, coalition-oriented politics of WSIS and other transnational institutions rather factional. One exasperated Brazilian civil society leader refers to the free software group from Latin America as "red guards." A Caribbean WSIS activist reports that "local ICT people call Free Software folk the 'Taliban'." A member of the WGIG, wishing to distance herself from the FSF activists while expressing sympathy for many of their goals, called herself a "fellow traveler."

These metaphors relating to communism or religious sects are not grounded in a belief that FS advocates are literally totalitarians. They are not. It has to do with their deeply ideological nature and a political style which they share with the referenced groups. As noted earlier, the zealotry of FSF activists has been reinforced, some believe, by the internal rivalry between "free" and "open source" adherents, recalling the Trotskyite/Stalinist rivalries of the past. Within the context of a large and diverse civil society coalition, a small, cohesive group with a well-defined, morally grounded, evangelistic ideology has a tendency to advance its ideas persistently regardless of their acceptance or effect on the involved community of discourse. Such factions can have a polarizing and exasperating effect on a heterogeneous civil society forum, where dialogue is continually distracted and captured by the preoccupations of the sect.

As an example, one can examine FSF's role in the discussions of intellectual property issues in WSIS civil society. Some time in 2004, Stallman mounted a crusade against the term "intellectual property."²¹ According to Stallman, the term lumps together patent, copyright and trademark law and "these laws originated separately, evolved differently, cover different activities, have different rules, and raise different public policy issues." There is validity to this argument; however, within the context of the WSIS civil society discussions the F/OSS advocates' efforts were focused more on enforcing adherence to Stallman's terminology than on any substantive accomplishments. Discussions about how the Working Group on Internet Governance should approach intellectual property issues in the context of WIPO or ICANN were constantly diverted by the F/OSS advocates' insistent objections to any use of the term "intellectual property." Their ideological commitment to free software led to other clashes as well. As one example, an effort by the Internet Governance Project to facilitate access to a physical meeting by using online collaborative software was criticized and boycotted by the FS advocates because the tool

²¹ For a typical statement of his views, see "Did you say 'intellectual property'? It's a seductive mirage," Third World Network, <http://www.twinside.org.sg/title2/twr171g.htm>

was proprietary software, despite the fact that no alternative tool was put forward and despite the software's compatibility with Linux implementations.

Civil society participation in WSIS was based on smaller groups called caucuses or working groups. FSF-Europe advocates gained control of the WSIS-CS caucus on intellectual property rights and renamed it the "Patent, Copyright and Trademark (PCT) working group." Georg Greve, director of FSF Europe, a physicist with limited legal and policy experience of the issues outside of free software, was made chair of the group. In the PCT Working Group, advocates with a broader and more legally grounded perspective on intellectual property, such as IP Justice's Robin Gross, had difficulty integrating themselves with the F/OSS activists, who were concerned almost exclusively with free software.

During the formation of the Working Group on Internet Governance (WGIG), civil society was asked to provide the UN Secretary-General with names of recommended participants from civil society. During this stressful process, friction between the FSF group and the other members of civil society reached its peak. In its attempt to agree on WGIG nominees, the Latin American caucus split into two separate, exclusive groups due (or so one side claimed) to the ideological intransigence of the free software advocates. When none of the PCT caucus nominees were placed onto the WGIG, Greve and other FS advocates mounted persistent objections on the CS plenary list. Some of their complaints had a valid basis, in that the procedures used by the Internet governance caucus to select its nominees were improvised, nontransparent and sometimes personality driven. But the FSF failed to confront this problem in a constructive way, asserting ownership over discussion of intellectual property issues and arguing that their absence from the WGIG meant that no intellectual property issues should be considered by the group at all. Indeed, the F/OSS faction showed a very naïve sense of political possibility in the international institutional arena. The UN Working Group on Internet Governance, being composed of many progressive civil society advocates and developing country representatives and being very light on big business representatives and containing no US government representative at all, presented a major opportunity to problematize stronger IPR protections and to put WIPO on the defensive. Yet Stallman and his adherents argued that WGIG should avoid IPR issues altogether.

Almost all of the individuals who are centrally involved in WSIS-CS are sympathetic to F/OSS principles and causes. Still, its impact on the official WSIS process was rather limited. Writing in LinuxWorld, Evan Leibovitch complained that "Official documents barely mentioned FOSS at all, burying its mention in a bland paragraph about 'increasing awareness' of various software models. Earlier drafts that had recommended supporting or encouraging FOSS were gutted due to pressure from proprietary software defenders such as the International Chamber of Commerce (ICC)."²² On the other hand, the unofficial Civil Society Declaration called upon governments to "promote the use of Free Software in schools and higher education and in public administration."

²² <http://www.linuxworld.com/story/39197.htm>

People associated with FSF do not have high measures of centrality in the WSIS civil society interpersonal network by our measures. Individuals such as Stallman, Moglen, Lessig and Greve, who are directly associated with FSF organizationally, ranked low, at 90 or below, on our various centrality scales. The highest ranking F/OSS persons in our research were two Germans, neither of whose primary organizational affiliation was FSF-Europe, and only one of whose primary issue network could be considered free software. The first German individual mentioned above, who ranked in the top 10 on most centrality measures, identified privacy/security as his main issue network. While he cited FSF Europe as an organization he worked closely with, he had stronger organizational affiliations with the Heinrich Boll Foundation and the European Digital Rights Initiative. The other German individual was more closely associated with the Chaos Computer Club and the Heinrich Boll Foundation than with FSF Europe. There are three reasons for this. First, the FSF's interpersonal network is North American-centered and the WSIS civil society network is Euro-centric. Second, it reflects a strategic decision by Lessig, Stallman, and Love to focus more on WIPO than on WSIS. Last, and not least, the sectarian behavior documented above has limited the scope of their interpersonal connections.

These experiences highlight the difficulties associated with the intersection of independently-developed issue networks and social movements at the global level. There are, however, some recent signs that some FSF adherents are learning from these experiences, broadening their perspectives, and integrating themselves more effectively into the WSIS civil society organs.

Conclusion

As an institutional regime governing the production and distribution of software, F/OSS has entered the mainstream. Though proprietary software interests remain powerful, free and open source alternatives have strong backers among business interests, governmental adopters, and the technical community. It is also picking up significant support among CIP advocates, as free software is translated into a variety of information content realms and as a cause is converging with many other change-oriented issues in the CIP domain. Still involved in free software development, the Free Software Foundation has become the organizational anchor for this convergence with other issue networks and movements. As convergence and replication occur, FSF's organizational form and finances come to resemble a transnational advocacy organization promoting a political cause.

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