Chapter 5

Free Cultural Misunderstandings

5.1   The Double Misunderstanding with Copyleft

On the 26th of May 2014 Italian noise musician Eleonora Oreggia, working under the artist name xname, published via email a call for experimental musical pieces on the theme of lullabies.[1] The selected works were meant to be released by the new net-label *nebularosa*, run by the artist, and distributed both as digital downloads and limited edition vinyl. Being both familiar with, and supportive of free culture practices[2] and also

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[1]   The following short account was narrated to me during an email exchange with Oreggia in 2015.

[2]   Eleonora Oreggia, "The Piksel Big Bang," in *FLOSS+Art*, ed. Aymeric Mansoux and Marloes de Valk (Poitiers: GOTO10, 2008).

a free software user for many years, Oreggia requested the applicants to specify which license they wished their work to be published under. However after making the final selection of works for the compilation, a strange pattern became apparent in the licensing choice. Indeed, instead of specifying the name of a particular license, the majority of submitters had simply put "copyleft", which as discussed earlier in Chapter 1, is not a license but simply a property of *some* free culture licenses. But the story does not stop here. After trying to clarify the situation with the musicians and explaining that a proper license was required, and that copyleft per se was not a license, she eventually received the following list of Creative Commons licenses from the artists: CC BY, CC BY-NC, and CC BY-NC-ND. Perfect, these were indeed valid licenses, the project could proceed as planned, except for one small puzzling fact: *none* of these licenses were copyleft licenses.[3] How did that happen?

A circled backwards letter C, the vertical mirror of the copyright symbol, is the graphic representation of copyleft. It can be found today on T-shirts, mugs, and of course on stickers to decorate the mood board that represents the laptop cases of artists, designers, musicians, and writers who want to demonstrate their support for... Well, for what precisely? As explained in the first chapter, and in the context of free software, copyleft is a property of a free software license, to ensure that all the modifications

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[3] As discussed previously, out of all the Creative Commons licenses, only the CC BY-SA is close to a copyleft license. For a more detailed discussion on the difference between copyleft and CC's ShareAlike, see Rob Myers, "Non-Commercial Sharealike Is Not Copyleft," 2008, http://robmyers.org/2008/02/24/noncommercial-sharealike-is-not-copyleft/.

and extensions made to the software must be free as well,[4] meaning published and distributed under the same licensing terms. Copyleft is *not* a synonym of free software. Non-copyleft licenses, which can generally be described as permissive licenses, do not require sharing back changes.[5] In fact these permissive licenses are sometimes referred to as copyfree licenses by their supporters, and the advocates of this term are openly against copyleft, arguing that unlike copyleft, copyfree is true software freedom because these licenses do not impose sharing.[6] In practice, both the FSF and OSI supports and list free software licenses that are copyleft and copyfree, and open source licenses that are copyleft and copyfree, which should come as no surprise given the important overlap between the two listings.

According to the FSF, the purpose of the copyleft mechanism is to prevent *uncooperative*[7] people from converting free software into propri-

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4   Free Software Foundation, "What Is Copyleft?" 2017, https://www.gnu.org/copyleft/copyleft.html.

5   I am purposefully simplifying here to make the basic distinction more clear. In practice however, depending on the license, the copyleft principle can either be non-existent, or weak, or strong. A license is said to be permissive, when the copyleft principal is non existent and the licensed program can be turned into closed source software. When a license is weakly protective, then the copyleft principle is said to be weak, as the program is prevented from becoming closed source, yet it can become part of a larger closed source system. Finally, when a license is strongly protective, then the copyleft principle is said to be strong, because the program is strictly prevented to become or be part of a larger closed source system. For a more complete overview, See David A. Wheeler, "The Free-Libre/Open Source Software (FLOSS) License Slide," 2007, http://www.dwheeler.com/essays/floss-license-slide.pdf. Last but not least, copyleft does not only apply to software, CC's ShareAlike is roughly equivalent of copyleft, and free culture licenses can also be categorised by function of their copyleft weight. See Contributors to the Freedom Defined Wiki, "Licenses," 2014, http://freedomdefined.org/Licenses.

6   Chad Perrin, Lester L. Martin II, Lisa Joy and Kbenjamin Sauerhaft Coplon, "Copyfree," 2017, http://copyfree.org/.

7   Free Software Foundation, "What Is Copyleft?"

etary software: copyleft is here to avoid a situation in which the freedom granted by the author to the users of their software, has been stripped away by an intermediary agent. As a consequence, in the case of the copyleft license GPL, it means that any distributed modifications of GPL'ed software must in return also be licensed under the GPL itself, thereby leading in theory to more free software being written and distributed. This is why some critics of the free software movement started to use the term *viral licensing* or virus[8] to describe the possibility of the GPL spreading whenever free software was modified and distributed. Some even called it the "Borg property,"[9] and there is certainly in these analogies a mix of popular sci-fi and posthumanist anxiety towards something inhuman going out of control, stealing our identities, and taking over the world. Here the notion of creativity is understood as a sort of Bergsonian *élan vital*,[10] a precious biological reproductive function that needs to be diligently safeguarded from a virus that might lead to involuntary sharing of embodied private property and identity. The analogy is not exaggerated and it seems these metaphorical strategies come up fairly often during debates around IP, whether or not specific to copyleft and free software. For instance in February 2012, following the peak of online protest against the US bill Stop Online Piracy Act (SOPA), the American

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[8] Raymond and Steele, "THE JARGON FILE, VERSION 2.2.1"; Paul Vixie, "Re: Section 5.2 (Ipr Encumberance) in Tak Rollover Requirement Draft. E-Mail to namedroppers Mailing List," March 6, 2006, http://web.archive.org/web/20070927175628/http://psg.com/lists/namedroppers/namedroppers.2006/msg00246.html.

[9] Richard Hawkins, "The Economics of Open Source Software for a Competitive Firm," *NETNOMICS* 6, no. 2 (2006): 103–17.

[10] In reference to Henri Bergson, *L'évolution Créatrice.* (Paris: Les Presses universitaires de France, 1907).

film industry magazine The Hollywood Reporter solicited a branding and advertising expert to draft a purposefully populist campaign targeting piracy.[11] The resulting mockup called DTCs, for Digitally Transmitted Content, made a questionable parallel between viral sharing and STDs, Sexually Transmitted Disease, using a condom as illustration and on the packaging of which could be read in capital letters "PROTECT YOUR CRE-ATIVITY."[12]

To return to the puzzling situation of licensing choice made by the musicians of the *nebularosa* net-label, a question that I asked myself in relation to this anecdote, was did the artists misunderstand what copyleft is, or did I misunderstand what the artists meant by signing their work in such a way? I have shown that copyleft is indeed a very particular le-gal mechanism with no possible misunderstanding, and is emblematic of sharing and co-creative practices. It is the most popular aspect of Stall-man's work, and plethora of free cultural copyleft licenses lists can be found on the Internet. Yet, the term is regularly misused. An example of such a confusion can be seen in one of the scenes of the very popular documentary *RiP: A Remix Manifesto*, in which copyleft is used to visually represents several icons of non-copyleft Creative Commons licenses (Fig-ure 5.1) such as non-commercial, sampling, and even public domain—the latter being the most radically non-copyleft status a work can possibly receive. Similarly the free software movement is frequently assimilated to the so-called copyleft movement, and somehow put in relation with

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[11] THR, "The SOPA Disaster: Hollywood's Image Problem and Who's to Blame," *The Hollywood Reporter* 50 (2012): 34.
[12] Ibid., 34.

Figure 5.1: RIP!: A Remix Manifesto

Still frame: Brett Gaylor, CC BY-NC 3.0, 2008

art traditions of non- and anti-copyright practices.[13] This creates confusion because copyleft relies heavily on copyright as explained several times in this thesis, and also—as discussed in the previous chapter—when it comes to mapping the different artistic intentions connected to cultural freedom, there are irreconcilable differences within the different communities which animate these fields.

The reason copyleft is misunderstood is very simple. The term sits at the cross-road between the cultural field and the legal field. Copyleft, an obvious play on the word copyright, is a way to express a certain form of rebellious and tongue-in-cheek humour which mocks or defies IP laws. The term predates the FSF, and so a trivial symbol like a copyleft sticker or the casual use of the term is not the sign of defusion and recuperation of free software by the means of mass producing stereotypes of cultural resistance, because such a sign occupied the cultural field long before its legal articulation with free software. In fact, one day in 1984 Stallman received by mail a programming manual that had been borrowed by American hacker and computer artist Don Hopkins. On the envelope a stickers reading "Copyleft (L)" was used to seal the small package. Hopkins had bought a pack of stickers at a science fiction convention, where hackers, including Stallman, often gathered and where it was common for them to organise and share rooms, notably for "@" parties in which people with email addresses could meet each other.[14] According to Hopkins, at that time the term copyleft was not part of the hacker culture, and

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[13] See Liang, *Guide to Open Content Licenses V1.2*, The Black and White (and Grey) of Copyright.
[14] Email to author, February 17, 2015.

the stickers had been purchased in the dealer's room of one convention with other comics, political, and satirical stickers and buttons.[15] Knowing Stallman's appreciation for such things, Hopkins had decorated the letter in a similar spirit. Little did he know that eventually the sticker and the pseudo-copyright statement he had written as a joke (Figure 5.2), would inspire Stallman to use the word copyleft to describe the properties of the GPL.[16] This is how copyleft, the symbol of rebellious cultural practices, ended up being claimed as a term to describe a particular mechanism of free software licensing. Regarding the copyleft term that inspired Stallman, it seems that it kept on being occasionnaly used in the nineties, with no connection to free software. For instance, I found it mentionned with the mark "<L>" instead of "(L)" in the lyrics of a filk song[17] inspired by the *Dune* science fiction saga by American author Frank Herbert. The lyrics were signed "<L> 1992 by Jeremy Buhler" with a note at the end of the file "PS - <L> means copyleft."[18]

While Hopkins explained that copyleft was not part of the hacker culture at the time he bought the stickers, the overlap of different alternative, countercultural, niche, or underground communities was however already visible in the copyright notice of a 1976 implementation of the proto-free software Tiny BASIC, where could be read on the title screen "@COPYLEFT ALL WRONGS RESERVED."[19] This particular

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[15] Ibid.

[16] Williams, *Free as in Freedom*, The GNU General Public License.

[17] A folk derived participatory music genre linked to science-fiction and fantasy fan communities as briefly discussed in Chapter 3.

[18] Jeremy Buhler, "The Spice Has Made My Green Eyes Blue," 1992, dune.txt.

[19] Li-Chen Wang, "Palo Alto Tiny BASIC," *Dr. Dobb's Journal* 1, no. 5 (1976): 15.

line of copyleft linked to computational culture also kept on being active in the nineties with no apparent connection to free software. For instance it can be found in some ezines mentionned as "(CL) Copyleft,"[20] or "Copyleft 1992 - All Rites Reversed,"[21] or "(CP) Kopyleft 1999 QNARKK PRODUCTIONS all rites reversed."[22] The last two are particularly interesting because they suddenly connect to much older publishing practices. It was relatively common in the late sixties and seventies to spot in underground publication a statement against the publishing industry and intellectual property, in various forms, such as the phrase "All Rights Reversed", spelled or expressed differently like in the "℗ All Rites Reversed – reprint what you like" notice in the 1979 version of the *Principia Discordia*.[23] Concerning the term copyleft itself, it is striking that mail artists such as Ray Johnson also used the term *copy-left* in their work,[24] and it was possible on occasions to spot the now very popular copyleft icon, a vertically mirrored copyright logo, marking a mail art related publication. In this context copy-left was more politicised and articulated by those who refused to engage with the art scene of the time, and who experimented with alternative systems of property by giving their art away, in an age were different strategies such as the staging of happenings, were

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[20] HTLV-3, ed., "020: The Swedish Elite Magazine. Nummer #1," 1995, 020_1.txt.

[21] Mister Zen, "Separation of Church and State in America: A Short History by Mister Zen," 1992, scsa-ash.txt.

[22] Maje$ty, ed., "QNARKK. #4," 1999, q04.txt.

[23] Greg Hill, *Principia Discordia, or, How I Found Goddess and What I Did to Her When I Found Her: The Magnum Opiate of Malaclypse the Younger, Wherein Is Explained Absolutely Everything Worth Knowing About Absolutely Anything.* (Mason: Loompanics Unlimited, 1979), SPECIAL AFTERWORD.

[24] McKenzie Wark, "<nettime> from Mail Art to Net.art (Studies in Tactical Media #3)," 2002, http://www.nettime.org/Lists-Archives/nettime-l-0210/msg00040.html.

created to resist the commodification of culture. In particular the use of copy-left was seen by Japanese mail artist Ryosuke Cohen as a symbol of "free-from-copyright relationships"[25] with other artists, in a way that was "not bound to ideologies."[26] Here the statement is not just paratextual, it also refers to a practice and attitude towards particular communities of sharing, similar to the 1973 "COPY-IT-RIGHT" and "distribution religion" philosophy from American video artist and activist Phil Morton,[27] or the earlier 1970 so-called *Xerox mark*, a circled *X*, used in the American video journal *Radical Software*, as the "antithesis of copyright"[28] and to "encourage the dissemination of information"[29]. Even though it is out of the scope of this research to map thoroughly other important or forgotten historical examples of copyright inversions, it should be clear that they have been quite numerous. The problem with such approaches, to come back to the topic at hand, is that their legal validity is at best questionable, which makes it easy for them to be claimed by the intellectual property framework they criticise. Unless potential artistic relationships and cooperation are made explicit, which is what Lithuanian-American artist George Maciunas did with fellow Fluxus artists by using a shared copyright,[30] or unless the estate of an artist or collective is taken over by a

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[25] Ryosuke Cohen, "RYOSUKE COHEN MAIL ART - ENGLISH," 1999, http://www.h5.dion.ne.jp/~cohen/info/ryosukec.htm.

[26] Ibid.

[27] Jon Cates, "Re:Copying-IT-RIGHT AGAIN," in *Relive: Media Art Histories*, ed. Sean Cubitt and Paul Thomas (Cambridge: MIT Press, 2013).

[28] Phyllis Gershuny and Beryl Korot, eds., *Radical Software, Volume 1, No. 1* (New York: Raindance Corporation, 1970).

[29] Ibid.

[30] Kristine Stiles and Peter Selz, *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings* (Berkeley: University of California Press, 1996), GEORGE MACIUNAS - Letter to Tomas Schmit (1964).

Figure 5.2: Copyleft (L) sticker
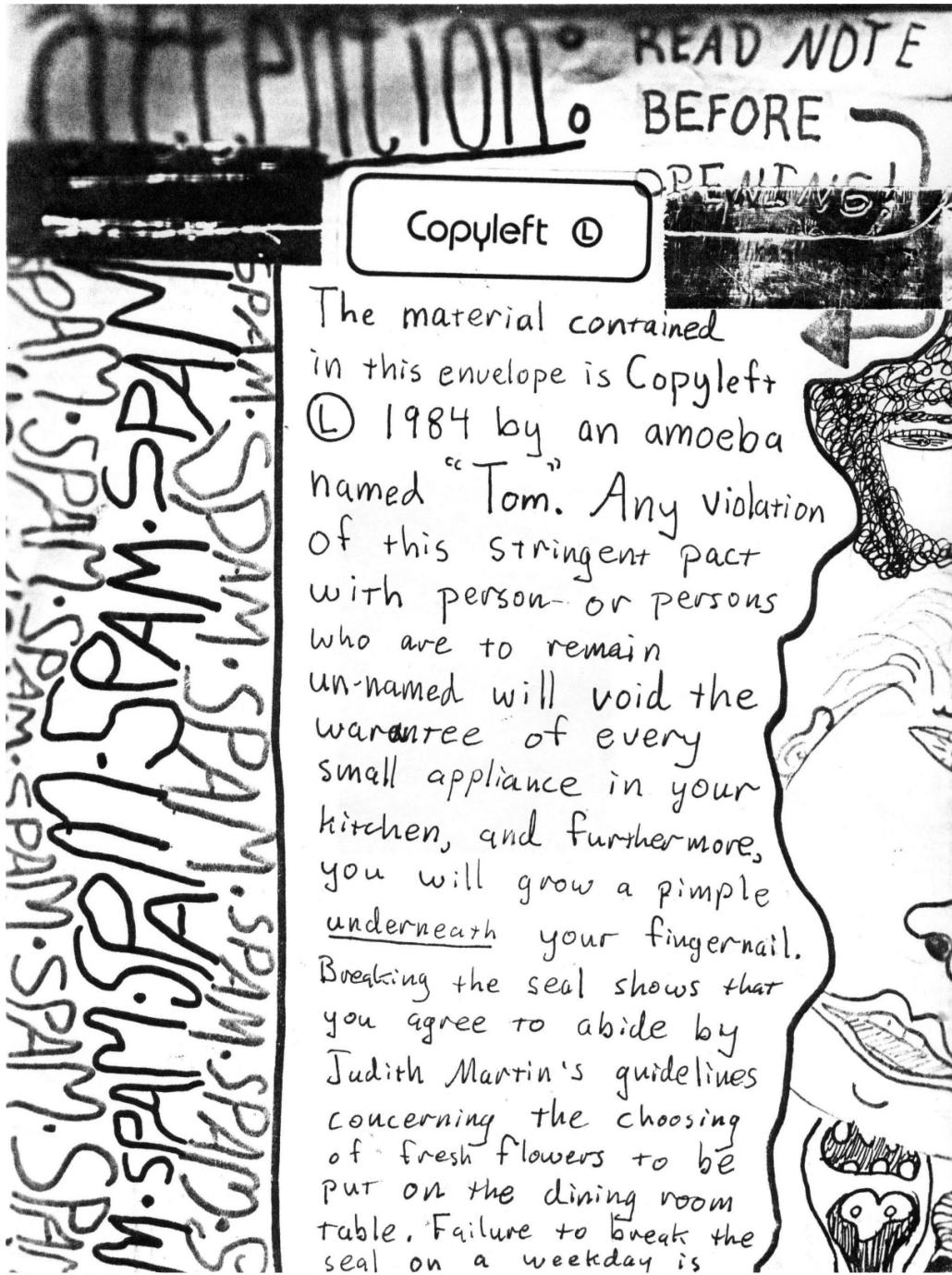
caring group or institution willing to document and share the work in the same original spirit, like The Phil Morton Memorial Research Archive,[31] then the door to contradictions can open at any time. For instance, in a very unfortunate and sad twist, the copy-left free-from-copyright ethos of mail-art echoed years later in some reproductions of Johnson's copy-left works, which are now stamped "Copyright the estate of Ray Johnson."[32]

But the copyleft trail does not stop there. The term copy-left and its iconic representation were introduced onto the mail-art scene by Swiss artist Manfred Vänçi Stirnemann, after the artist had sent stamps of the copy-left word and logo to Cohen, who then started to use the latter to imprint copy-left marks as part of his widely distributed stamp sheet editions.[33] At the time Stirnemann was not aware of any similar usage of the term, and admits it is a quite obvious play on the word copyright, he would not be surprised if other artists with some political inclination had also come up with the same idea. At first, Stirnemann was not involved in mail-art, and used copy-left and its mark for his projects and publications, such as the 1984 "copy-left" editions. His work has been inspired by various topics and things, from the eighteenth century *Encyclopédie* edited by Denis Diderot and Jean le Rond d'Alembert, early eighteenth and nineteenth century anarchism and socialism, American poet Gary Snyder and the Beat Generation, hippies, McLuhan's global village, to art brut and the Frankfurt School. For Stirnemann, "no copy-right" eas-

31 Cates, "Re:Copying-IT-RIGHT AGAIN."
32 Wark, "<nettime> from Mail Art to Net.art (Studies in Tactical Media #3)."
33 This paragraph is based on an email exchange with Stirnemann in March 2015.

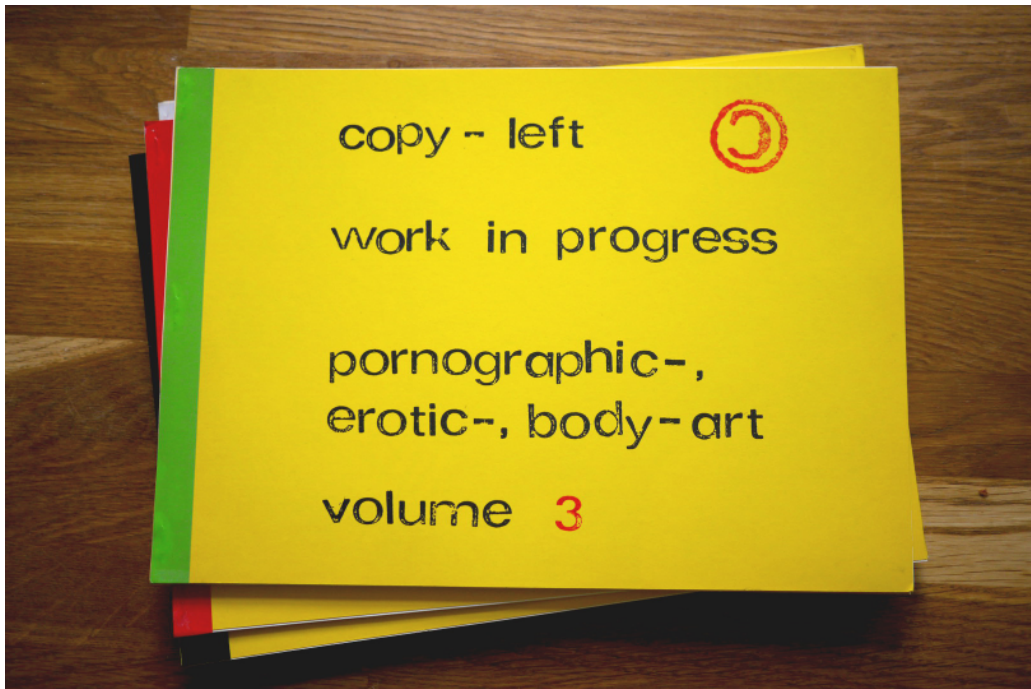Figure 5.3: Cover of 1985 copy-left issue #3

ily translates into copy-left while making allusion to left wing politics, it is as simple as that. Regarding the coining and usage of the term, Stirnemann cites as first personal influence the Underground Press Syndicate (UPS), a late sixties born countercultural network of underground newspapers and publishers, within which community things were shared, with simple rules of no copyright but the crediting of source and author. This was actually often made explicit in these publications, for instance in the colophon of the UPS affiliated underground magazine *HOTCHA!* initiated by Swiss artist and writer Urban Gwerder, the following statement could be read: "anti-copyright aber quellenangabe und beleg erwünscht", anti-copyright but please cite the sources and references.[34]

Such an approach itself is of course in the trajectory, of the even more radical pseudo-copyright statement found in the *Internationale Situationniste* publication, which started with its third issue of 1959 to print the following notice: "Tous les textes publiés dans 'INTERNATIONALE SITUATIONISTE' peuvent être librement reproduits, traduits ou adaptés, même sans indication d'origine."[35] All the texts published in 'INTERNATIONALE SITUATIONISTE' can be freely copied, translated or altered, even without mention of origin. The link could be further explored to take into accounts the large history of anti-copyright and plagiarist practices in art,[36] but it is not necessary. The demonstration here, is to simply show that copyleft licenses are not derived and do not belong to the cul-

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[34] Urban Gwerder, ed., *HOTCHA!, No. 49* (Zürich: UPS, 1970).

[35] Guy Debord, ed., *Internationale Situationniste (Numéro 3)* (Les Sections de l'Internationale Situationniste, 1959), 2.

[36] Cramer, "Anti-Copyright in Artistic Subcultures."

tural legacy of anti copyright practices. They are completely different trajectories. It would be more correct to say that it just happens that Stallman was exposed unknowingly to the micro-mediatic[37] diffusion of underground art scenes with the copyleft sticker, and ended up fixating a term outside of its original context. This of course helped a lot free software to become adopted and appropriated back by artists who thereafter, with very few exceptions such as Copyleft Attitude, did not interpret copyleft in its techno-legal context but linked it to an internalised symbolic critique of the culture industry in the past century.

American scholar James O. Young suggests using the term style appropriation when "artists do not reproduce works produced by another culture, but still take something from that culture [and] produce works with stylistic elements in common with the works of another culture."[38] In that sense, the artists contributing to Oreggia's netlabel sampler effectively appropriate the style of free software culture by using the term copyleft in relation to the licensing of their work, yet picking the apparently wrong non-copyleft licenses. Similarly, the *.copyleft!_* notice from Turkish artist İbrahim O. Akıncı, both refers to the notions of free art, copyleft attitude, and free culture, yet presents itself as a non-license, a comment on the moral values and ethics of free culture, as they are perceived by the artist.[39] But Stallman's use of copyleft is *also* a case of style

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[37] In reference to Sarah Thornton, *Club Cultures: Music, Media, and Subcultural Capital* (Hanover: University Press of New England, 1996), "Micro-Media: Flyers, Listings, Fanzines, Pirates".

[38] James O. Young, *Cultural Appropriation and the Arts* (2008; repr., Chichester: Wiley-Blackwell, 2010), 6.

[39] İbrahim O. Akıncı, "httpdot.net » . .copyleft!_:" 2013, http://www.httpdot.net/copyleft_.

appropriation of underground and countercultural practices, for which the meaning of copyleft is not universal, but as I have shown, points to a collection of intentions and processes that can vary greatly, from encouraging copying, but not specifying the possibilities of transformation, or requesting attribution, to complete permissiveness and the occasional legal limbo to provoke a challenge to copyright. They are all unique and specific to the cultural context they stem from. These practices were in fact not proto-copyleft but similar to the proto-free culture era described in Chapter 2, where all sorts of exotic licenses were used to publish digital works. Therefore, and returning to the netlabel anecdote, it becomes understandable that when asked to specify a license, the musicians all come with very different licenses, each illustrative of a personal understanding of copyleft art that interfaces with common language, as part of an ongoing dramatisation[40] of the processes of cultural commodification. So in the end there are truly two misunderstandings occuring with the use of free software derived copyleft for works of art: the first is most obviously the failure to properly use free cultural copyleft licenses, but the second, more subtle underhand misunderstanding, and of equal if not more importance, is the failure to see behind the first one the continuation of poetics and resistance, as part of a long history of practices critical of intellectual property.

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[40] In reference to Hebdige, *Subculture*, 87.

5.2   The Enduring Debate over the Commercial Exploitation of Free Culture

Another frequent source of confusion is the commercial exploitation of free and open things, and the muddiness surrounding the topic seems to be the most persistent misunderstanding within free culture. Because of this, the literature on the topic has yielded in the past, and is still producing a plethora of contradictory analysis. For instance open source was presented early on as exemplary of a cyber-communist gift economy and wrongly associated with the shareware and freeware business models,[41] or articulated as anti-commercial effort,[42] that sometimes was even described as the underlying meaning of copyleft.[43] It is an old confusion and more recent writings have started to look back at the connection between free software and the software industry in a less one-sided way,[44] providing in particular a much needed articulation of the relationship between the liberal interpretation of free software and free markets, and the tension that arises in the symbiosis between capital and community.[45]

Still, even today the relationship between free and open source software, and its commercial exploitation from large corporations to

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[41] Richard Barbrook, "The Hi-Tech Gift Economy," *First Monday* 3, no. 17 (1998), http://firstmonday.org/ojs/index.php/fm/article/view/631/552; Richard Barbrook, "The Hi-Tech Gift Economy," *First Monday* Special Issue 3 (2005), http://firstmonday.org/article/viewArticle/1517/1432, Special Issue Update.

[42] Galloway, *Protocol*, 169–71.

[43] Hardt and Negri, *Multitude*, 301–2.

[44] Berry, *Copy, Rip, Burn*, The Commercialisation of FLOSS.

[45] Johan Söderberg, *Hacking Capitalism: The Free and Open Source Software Movement* (New York: Routledge, 2008), Business models based on free software.

garage-hacker startup companies, is the topic of heated debate.[46] It is true that the link between commercial practices, software distribution, and the idea of selling software has always been a complicated construction within free and open source communities. Swedish scholar Johan Söderberg uses the 1989 slogan from early free software supporting company Cygnus Solutions, "we make free software affordable,"[47] to sum up the contradictory logic of the first commercial exploitations of free software practices. But this ambiguity is also mirrored, early on in the nineties, with the discourse of the first large non-commercial and not-for-profit free software projects. For American software engineer Ian Murdock, founder of the free software Debian project and operating system, software freedom in relation to commercial exploitation was referred in such a way:

> The Free Software Foundation plays an extremely important role in the future of Debian. By the simple fact that they will be distributing it, a message is sent to the world that Linux is not a commercial product and that it never should be, but that this does not mean that Linux will never be able to compete commercially. For those of you who disagree, I challenge you to rationalize the success of GNU Emacs and GCC, which are not commercial software but which have had quite an impact on the commercial market regardless of that fact.[48]

The idea of something presented as non-commercial, which nonethe-

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[46] For instance on popular tech news posting and discussion forums, such as *Slashdot*, *Hacker News*, and also some subreddits from *Reddit* and various chan's /g/ and /tech/ boards, such debates have solicited emblematic knee-jerk reactions from its community of users, whenever something related to free and open source software and commercial exploitation is discussed.

[47] Ibid., 32.

[48] Murdock, "The Debian Manifesto."

less has the ability to be commercially competitive on a market, is not trivial to communicate and understand, but it makes explicit that the resistance towards commercial exploitation is not necessarily an opposition to the principles of free market. Fast forwarding fifteen years after the release of the Debian manifesto from which the above text was quoted, this ambiguity has played in favour of developing a large free and open source software supported anti-capitalist network infrastructure,[49] but also fuelled many large scale free and open source software based commercial projects. The latter is obvious for products relying on permissive licensing, as often exemplified by the relationship between FreeBSD and Mac OS,[50] but also for copyleft licensing for which commercial exploitation is possible in spite of the much feared source code closedness. This strategy was particularly demonstrated with Google's Android mobile operating which Linux source code, was essentially reduced to an open middleware and thin client, meant to interface with a corporate controlled closed ecosystem of apps and cloud services.[51]

As covered in the first chapter, since its infancy, the FSF goal was never to promote the distribution of software free of charge, but instead to liberate the software culture from the closed source and proprietary software model. Even before the introduction of the term open source, Stallman

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[49] For a list of 32 active, at the time of writing, of "[a]nti-capitalist, anti-hierarchy, autonomous revolutionary collectives which provide free or mutual aid services to radical and grassroots activists", see Riseup, "Radical Servers," 2017, https://riseup.net/en/security/resources/radical-servers.

[50] Weber, *The Success of Open Source*, 202.

[51] Kimberley Spreeuwenberg and Thomas Poell, "Android and the Political Economy of the Mobile Internet: A Renewal of Open Source Critique," *First Monday* 17, no. 7 (2012), http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/4050/3271.

was very well aware of the risk of using the adjective *free*:

> The word "free" in our name does not refer to price; it refers to freedom. First, the freedom to copy a program and redistribute it to your neighbours, so that they can use it as well as you. Second, the freedom to change a program, so that you can control it instead of it controlling you.[52]

However, this was only the beginning of what would be an unceasing struggle with language. Not only did the FSF supporters have to liberate software to fit their particular definition of freedom, now they would also need to do the same for their own vocabulary. Therefore, by the end of the nineties, and shortly before the creation of the OSI, the FSF started to maintain a collection of "confusing or loaded words and phrases that are worth avoiding."[53] This effort is in fact a preemptive lexicon meant to defuse possible current and future weaknesses in the free software discourse. The evolution of this collection of definitions is literally an ever changing media archaeological artefact that is the witness of Stallman's learning process and own individuation, which development, like GNU's source code, is made public through an iterative and version controlled workflow.

Throughout the years, the list has kept on growing, as an attempt to patch any new misunderstanding, and to remain in control of the GNU language. Regarding the issue of the commercial exploitation of free and

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[52] Stallman, "What Is the Free Software Foundation?"

[53] Free Software Foundation, "Confusing Words and Phrases That Are Worth Avoiding," 1998, http://web.archive.org/web/19980119061527/http://www.fsf.org/philosophy/words-to-avoid.html.

open source software, this lexicon is therefore helpful in its function of logging Stallman's defusing efforts. For instance, the entry "Sell software" added in 1998, is essentially a response to the threat presented by the creation of the OSI the same year:

> "Sell software"
>
> The term "sell software" is ambiguous. Strictly speaking, exchanging a copy of a free program for a sum of money is "selling"; but people usually associate the term "sell" with proprietary restrictions on the subsequent use of the software. You can be more precise, and prevent confusion, by saying either "distributing copies of a program for a fee" or "imposing proprietary restrictions on the use of a program," depending on what you mean.[54]

In this quote, Stallman and the FSF try to balance an ethically driven free software discourse with a touch of openness towards commercial exploitation. This attempt to connect with past defectors and future OSI supporters is even stronger fours years later, were the term "commercial" is added in response to the increasing popularity of the term open source in business contexts:

> "Commercial"
>
> Please don't use "commercial" as a synonym for "non-free". That confuses two entirely different issues.
>
> A program is commercial if it is developed as a business activity. A commercial program can be free or non-free, depending on its license. Likewise, a program developed by a school or an individual can be free or non-free, depending on its license. The two questions, what sort of entity developed the program and what freedom its users have, are independent.

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[54] Ibid.

In the first decade of the Free Software Movement, free software packages were almost always noncommercial; the components of the GNU/Linux operating system were developed by individuals or by non-profit organisations such as the FSF and universities. But in the 90s, free commercial software started to appear.

Free commercial software is a contribution to our community, so we should encourage it. But people who think that "commercial" means "non-free" are likely to assume the idea is self-contradictory, and reject it based on a misunderstanding. Let's be careful not to use the word "commercial" in that way[55]

This long quote is particularly striking because it shows two aspects of the free software discourse prototyping. First, Stallman starts to reach the limits of its conceptual framework, and the more he tries to articulate a neutral all encompassing position the more difficult it becomes for the reader. If the usage of free in free software was already confusing and questionable,[56] the introduction of a term like *free commercial software*, while perfectly correct and coherent within the GNU language, does little to help communicate that free software and commercial exploitation are compatible. Kelty uses the term *recursive public* to describe how the free software community articulates itself via direct engagement and modification,[57] but what the FSF and Stallman's collection of problematic words shows is that the procedure in which such recursion happens, while being

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[55] Free Software Foundation, "Confusing Words and Phrases That Are Worth Avoiding," 2002, http://web.archive.org/web/20020124230207/http://www.fsf.org/philosophy/words-to-avoid.html.

[56] Every now and then, some debates sprout online which discuss whether or not the term is ambiguous and should be renamed. Usually the alternatives suggested are so tainted with a personal interpretation of freedom, that trying to clarify leads to even more problematic alternatives, for instance "Freedom Software", or "People's Software", or "Software for the Masses". See Sandip Bhattacharya, "Re: Free Software [Solutions [was So what is the problem?]," 2004, http://git.net/ml/org.fsf.india.fsf-friends/2004-09/msg00045.html

[57] Kelty, *Two Bits*, Introduction.

public and informed by public discussions, is in fact private and authoritative. It is also more recursive than Kelty may have wished for as it gives little room for a change of direction, because its self-similar generative process only points to a downward spiral. The text quoted above is also symptomatic of an information driven culture that constantly rewrites its own history. In particular, the entry quoted above significantly alters the commercial origins of free software as it omits the fact that Stallman's efforts to develop the concept of free software was bootstrapped by the selling of his own free software,[58] or to be more precise, by distributing copies of proto-GNU programs for a fee. Regardless, this novel practice would indeed prove to be an "innovative business model,"[59] which makes the emergence of open source software a logical next step in the refinement of such commercial practices.

If free software is truly a recursive public, then its base case is the famous expression "free as in speech, not as in beer,"[60] which has the specificity to link the free software discourse with broader free cultural issues, but also doom the latter by transmitting further its ambiguity to non-software free cultural things. This aspect was notably highlighted with the 2005 *free beer* project.[61] This brew was initiated by a group

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[58] See Richard M. Stallman, "The Gnu Operating System and the Free Software Movement," in *Open Sources: Voices of the Open Source Revolution*, ed. Chris DiBona, Sam Ockman, and Mark Stone (Sebastopol: O'Reilly; Associates, 1999), 53–70, GNU Emacs.

[59] Salus, *The Daemon, the Gnu, and the Penguin*, 50.

[60] Originally formulated in 1998 as such: " 'Free software' is a matter of liberty, not price. To understand the concept, you should think of 'free speech', not 'free beer' ". See Stallman, "What Is Free Software?" 1998. The modern version was introduced in 2001. See Stallman, "What Is Free Software?" 2001.

[61] SUPERFLEX, "FREE BEER," 2004, http://superflex.net/tools/free_beer.

of students from the IT-University in Copenhagen and the Danish artist collective SUPERFLEX. It was first released under the name *Vores Øl*[62], the open source beer, and was later modified and developed further by the artist collective as the *Free Beer* project. What is specific about this beer is that the recipe and the branding are published under a CC BY-SA license that allows anyone to produce the same beverage, or any other one that would be derived from this freely available recipe. Similar to the free software copyleft principle, this is made possible as long as the terms of the CC license are respected. The conditions boils down to publish the original or modified recipe with the same license and requires credits to the project initiators, and other contributors if the recipe has already been modified. As long as this condition is respected, anyone is *free* to make and sell the free beer product and earn money with it, without having to pay any royalties or licensing fees to the authors of the original recipe, or to those who modified it further. But, next to the playfulness of the work, what such a project shows is the fragility of the FSF position towards the expression of selling software. *Free Beer* is a free cultural work, and more precisely a beer liberated from the closed and sometimes secretive practices of brewers, but it's also a product of consumption that is sold in different contexts, and for which it would be rather strange to rephrase the selling of free beers in favour of the distribution of free beers for a fee.

So in practice, the confusion discussed here, when transposed at a

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[62] Superflex.net and students at ITU.dk, "Vores øl," 2004, https://web.archive.org/web/20041224002116/http://www.voresoel.dk/main.php?id=5.

non-software free cultural level, has multiple repercussions, on economic profit, cultural commentary, and consumerism. First it's the open door for crude and direct exploitation because free culture can present itself as a gift economy,[63] in which money is not the purpose of the exchange of goods or services, which is more or less implied by Stallman's effort to avoid using the word selling. The consequence is that for instance when the CC supporter and image hosting website Flickr attempted to monetise the photos of its users,[64] it offered a classic licensing model to remunerate the photographers who had chosen to publish their photos under standard copyright protection, but did not offer any compensation to those who had publish their photos under the CC licenses that were not explicitly non commercial. Nothing wrong from a legal perspective but a rather painful reality check for the photographers using CC licenses who had not quite understood some of the subtleties of this pseudo-gift economy. Second, the confusion exists also on the other side of the free cultural transaction, which seriously weakens the paratextual message shared by free culture supporters. For instance free culture supporting scholars such as Cramer, or animators like Paley, are almost systematically asked by editors, publishers and distributors to approve, license, authorise, and make contracts copies of their work for publications or screening,[65] despite their use of free culture licenses, thus ignoring and

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[63] Marcel Mauss, *The Gift: The Form and Reason for Exchange in Archaic Societies* (1954; repr., London: Routledge, 2002).

[64] Richard Nieva, "Some Photographers Bristle over Flickr's Selling of Photos," *CNET*, 2014, \url{https://www.cnet.com/news/some-photographers-bristle-over-flickrs-selling-of-photos/}.

[65] Emails to, and in discussion with author, 2013-2014.

making irrelevent the point they try to make to the very culture industry that remains blissfully unaware or unwilling to engage with such critiques. And third, from the perspective of the consumer, the default interpretation of free in the context of exchange and sharing, simply means gratis.

Of course, those expecting free software to be free as in free beer, or believing that it is the outcome of a spontaneous global cooperative mechanism are very much misinformed about how such software is produced. The vast majority of Linux kernel developers are employed by tech companies[66] which have extended their competition in the writing of source code relevant for their product, and many important desktop and mobile applications and their components are managed and produced by large corporations, following a model in which free and open source software is used strategically.[67] Similarly, emblematic projects like Mozilla Firefox are still alive simply because of external revenue streams and deals,[68] made possible via a construction in which the very communicative nonprofit organisation controls a more discreet revenue-generating entity.[69] At the opposite end, small or independent software projects constantly struggle to generate income for its developers, even if their work

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[66] See Corbet and Kroah-Hartman, "Linux Kernel Development."

[67] Salman Q. Mian, Jose Teixeira and Eija Koskivaara, "Open-Source Software Implications in the Competitive Mobile Platforms Market," *I3E 2011: Building the E-World Ecosystem*, 2011, 110–28; Jose Teixeira and Tingting Lin, "Collaboration in the Open-Source Arena: The Webkit Case," *SIGSIM-CPR '14 Proceedings of the 52nd ACM Conference on Computers and People Research*, 2014, 121–29.

[68] Essentially royalties from deals with search engine companies, see Hood & Strong, "Independent Auditor's Report and Consolidated Financial Statements," Financial report (Mozilla Foundation and Subsidiary, 2015).

[69] See Mozilla Foundation, "Mozilla Foundation Reorganization," 2005, http://www-archive.mozilla.org/reorganization/.

is widely used commercially,[70] sometimes with their economic struggle noticed only once covered in tech news channel.[71] Yes, free software licenses allow for commercial exploitation and most free and open source software source code is nowadays just one click away to download for free, but abuses from corporations and the reluctance of the FSF to engage seriously with the question of work and labour, combined with very optimistic views on a fully cooperative society and sharing economy living on thin air, all this has today severely damaged the cultural diversity within the free and open source software ecosystem. As a result, in practice free software is expected to be gratis, available on-demand, disposable, and coming out of nowhere but the cloud. Worse still, this aspect is often given as an advantage of free and open source software over closed source and proprietary software. Any independent developer or small team of programmers trying to make a user pay for their work—or trying to justify the need to make a living—will in the best case provide a minimal income,[72] or in the worst case be trashed publicly for daring to ask for money.[73]

If the FSF can greatly help with intellectual property issues and abuse regarding free and open source software, it is neither a union, nor a co-

[70] Bob Beck, "Re: Request for Funding Our Electricity," 2014, https://marc.info/?l=openbsd-misc&m=138972987203440&w=2.

[71] Julia Angwin, "The World's Email Encryption Software Relies on One Guy, Who Is Going Broke," *ProPublica*, 2015, https://www.propublica.org/article/the-worlds-email-encryption-software-relies-on-one-guy-who-is-going-broke.

[72] Paul Davis, "Ardour and Money, 2014 Edition," 2014, https://community.ardour.org/node/8288.

[73] Reddit Linux, "'You Are a Cheater If You Download Elementryos for Free'," 2015, https://www.reddit.com/r/linux/comments/2vi6qo/you_are_a_cheater_if_you_download_elementryos_for/?st=iyvr87to&sh=0d2f6594.

operative. Free and open source software programmers are on their own trying to find ways to survive until the day when Stallman's free society comes true, a society where "nobody will have to work very hard just to make a living" and "[t]here will be no need to be able to make a living from programming."[74] But that proposition also ends up sabotaging the further development of free and open source software, and today results in a situation where for some, public source code has became a way to show off skills, to present source code as a curriculum vitae to eventually get hired and paid to write software that will unlikely be free software, a trend accelerated by so-called social coding platforms like GitHub,[75] but also by the same boards, like the social news website Hacker News,[76] where such practices are discussed and where it is well accepted to show pet projects.[77] These demos are often personal projects, highly topical and personal, or dependant on external services and platforms, and for which user attraction and software rot is irrelevant because they are software of the moment. Such software is a disposable material to gain reputation and visibility within the startup software industry.

For non software free cultural works and expressions however, this translation does not work well, as—with the exception of performing a

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[74] Stallman, "The GNU Manifesto."

[75] Laura Dabbish, Colleen Stuart, Jason Tsay and Jim Herbsleb, "Social Coding in Github: Transparency and Collaboration in an Open Software Repository," *Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work*, 2012, 1277–86; Daniel Doubrovkine, "Github Is Your New Resume," 2011, http://code.dblock.org/2011/07/14/github-is-your-new-resume.html.

[76] Notably the "Show HN:" threads. See Y Combinator, "Show | Hacker News," 2017, https://news.ycombinator.com/show.

[77] Laura Dabbish, Colleen Stuart, Jason Tsay and Jim Herbsleb, "Social Coding in Github."

work—most artistic income streams rely on making derived objects from the work, or licensing its access.[78] What is more, unlike software tools, with a few exceptional cases where the tool itself becomes a culturally infused constraint practice associated with a specific community and culture,[79] the value of these works or expressions do not age the same: by effect of fashion, discovery, trends, inspiration, these works can become financially relevant at any time. To distribute them both for free and with a free software licenses is therefore truly radical, because of the financial suicide it may represent.

As a workaround, partisan or free culture often adopts a liberal communist discourse in which the role of services is presented as a requirement for sustainability: the musician does not make money from the music freely licensed but from merchandising, gigs, limited physical editions or the free tracks on cassette tapes and vinyls; the writer derives income from special physical limited editions of an electronic publication; the artist does not make money from commercial gallery purchases and exhibitions but from public funding, residencies, and commissions. All of these strategies come with strings attached given the mediation created by the production and distribution of these new objects, in which the free culture freedom of the author is moderated by the editorial freedom of the platforms, the publishers, the funding organisations, and the curators standing at the gates of a liberated culture as service driven economy.

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[78] It is out of the scope of this thesis to discuss alternative and speculative models for free culture production, crowd-funding and other patronnage. For some case studies, see "Sustainable Models for Shared Culture.".

[79] For instance ASCII and ANSI editors.

On top of that, novel forms of funding and micro-payments or patronage can be put in place, but are so far only effective for already established authors, or very talented marketers and net-workers, or targeted at mainstream culture consumption. Finally, for free culture artists who were not born wealthy, working today still remains the most straightforward option to liberate a practice and bypass entirely the ambiguity of the commercial exploitation of free culture, thus coinciding with economic models of anti-professional art production that pre-date free culture[80] and also connect back with strategies to sustain the making of work that resist commodification, either because of their form or because of the intention of their author.

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[80]   Stiles and Selz, *Theories and Documents of Contemporary Art*, GEORGE MACIUNAS - Letter to Tomas Schmit (1964).

Part 3: Free as in ... Trapped

In the second part of the dissertation, I wanted to build upon the discussion started earlier in Part 1, about the consequences of the very broad adoption of what I called the free software template. I had already sketched that the introduction of the latter had led to a very wide adoption beyond the software realm, and hinted that this adoption should not be misunderstood for a global movement, but instead something closer to a self-contained liberal democratic process with many opinions driven sometimes by radically opposed ideologies.

To make this aspect more clear I have looked in the last three chapters at the cultural appropriation of the free software template in the context of art and culture production. I have shown that unlike what was perceived at the legal level—namely seeing free and open source licensing as a convenient novelty mechanism to make collaborative works—the motivation behind such appropriation was much more profound. I have explained that it would be more precise, in fact, to talk about the plurality of appropriations, and inspirations, because of the different intentions that motivated them in the first place. To explain this aspect I have notably discussed that next to the early emergence of free and open content, the proto-free cultural concept of *art libre*, or *free art,* had existed as two different strands that neither overlapped, nor sought convergence. At the same time their existence posed the problem of affiliation with free software, in which the hypothesis of a liberated work of art is problematised differently and shows a different appreciation of cultural freedom, thus weakening a free culture discourse presented as a common umbrella for all software and non-software freedom. But if there has been cultural appropriation and if some elements have been lost or transformed in transla-

tion, I have also shown that the communities that emerged around these principles are not based on make-believe relations but genuine and concrete practices, regardless if they are rooted in a magical recovery[1] of a lost or purely speculative tradition. They simply materialise cultural freedom in different ways.

As announced in the text of the GPL—almost in a prophetic warning to the coming free culture practices—a GPL licensed work is provided " 'AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED."[2] Pushing this disclaimer further, there is absolutely no guarantee that works created within free culture are ideologically aligned or can form a coherent whole. This is not without consequences on artistic productions, not just because of their failure to contribute to *useful commons* in an engineered culture industry made of Lego bricks, but also in terms of their effectiveness to communicate a critique of intellectual property, if such critique limits itself to the selection of tools or licenses. Even for an artist like Mattin interviewed in Chapter 4—who told me that he did not believe that a work should be totally transparent and all encompassing, and who considered his work a purposefully fragmented puzzle that should just give enough clues and tension to trigger curiosity and discussion on that matter—it is questionable if putting back such a puzzle is even possible. Understanding the context of the production of free cultural works is therefore an haphazard process, as it really depends on several levels of literacy. I have explained that this literacy

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[1]   Clarke, "The Skinheads and the Magical Recovery of the Community."
[2]   Free Software Foundation, "GNU GENERAL PUBLIC LICENSE Version 2," 1991.

issue is also to be taken into account from the perspective of the practitioners themselves. Practitioners can pick up the wrong license for their work, misuse it, or misunderstand why it was created in the first place. This situation is of course ignored by those who act as a gateway to alternative copyright licensing, and the reasons of such bypass are twofold. First of all, as discussed in Chapter 2, the different definitions that have attempted to vulgarise the notion of cultural freedom and open content, form their own habitus which overshadows that from which the licenses they select stem. Secondly, whenever a new generalised strategy for alternative copyright licensing is proposed, it is systematically reduced to its legal analysis, not only because those who are producing such synthesis are very often legal scholars, but also because it is much easier to compare licenses from the lingua franca of the law, rather than from a language-game perspective, let alone aesthetics.

Walter Benjamin in his time noted that the increased popularity of photography from its adoption of Dada inspired *revolutionary content* in the political photo-montages of John Heartfield, eventually turned into a more nuanced aesthetic experience, that ultimately led to the success of "transforming even abject poverty – by apprehending it in a fashionably perfected manner – into an object of enjoyment."[3] To paraphrase Benjamin, the practitioners misusing the copyleft principles could for instance run the risk of ending up supplying, once again, a productive apparatus without changing it. This problem is clearly visible with the infantilisation of authors that happens, for instance, with the Creative

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[3] Benjamin, "The Author as Producer," 87.

Commons plea for human readable deeds, while keeping content producers away from the more *adult* texts such as the lawyer-readable texts and the technological information that constitutes the machine-readable metadata. Discussions surrounding intellectual property must be led by specialists. Berry and Moss, borrowing terminology from Deleuze, noted that CC "licensing model acts as a 'plan(e) of organisation', placing a grid over culture, communication and creativity" while ensuring that "legal licences and lawyers remain key nodal and obligatory passage points."[4] This aspect is also felt by free artists themselves. I have explained that free art worked as a safe haven, an autonomous territory for specific artistic practices, but this territory is also claimed at a higher level by myriad forms of federating structures and alliances. For instance, with the FAL becoming an official free culture approved licence, and more recently with the compatibility with the latest iteration of the CC BY-SA license:[5] art libre becomes hardly dissociable from free culture and CC. It ends up being used by practitioners who are not familiar with the context in which the FAL was created, and will likely miss the critique of Moreau, who warns against a free culture turning into an end in itself, and no longer as a means by which to liberate authors and their work.[6]

However, in a surprising and hopeful twist, I have argued that this is not necessarily an issue, because, as I have shown in the previous part,

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[4] See David M. Berry and Giles Moss, "The Politics of the Libre Commons," *First Monday* 11, no. 9 (2006), http://firstmonday.org/ojs/index.php/fm/article/view/1403/1321.

[5] Creative Commons, "ShareAlike Compatibility."

[6] Moreau, "Le Copyleft Appliqué à La Création Hors Logiciel. Une Reformulation Des Données Culturelles ?" 565.

when it boils down to groups or individual practices, the materialisation of free culture happens with very open interpretations, which are consistent with artistic styles and cultural identity. Rather than following closely a free cultural constitution or binding to a specific federating ideology, I have given as examples the use of the word copyleft, and the commercial exploitation of free culture to illustrate how these aspects change from one group, or individual, to another. In particular, a lot of the cultural affiliation that can be found in free culture analysis is essentially coincidental, or accidental, and when examined closely that which at first seemed to be the development of the same ideas, was in fact an arbitrary linguistic crossover of two different trajectories. This is why I have argued that the cultural diffusion of software freedom happens in different stages, showing the existence of more authoritative centres, that preserve and develop the definitions and rules in order to remain in control of their free cultural discourse. But at the same time this discourse is also counter-shaped by the communities, and also by the individuals that revolve around these centres, and for which the understanding of all the free and open source ideas can be radically different.

In sum, free culture is animated by two forces that keep on trying to get a hold of each other. One more conscious of its agenda is the free culture, which locks itself out from public debate by constantly trying to prevent its participants from radically reconfiguring its structure. This force embraces openness as long as the openness of interpretation and meaning of its discourse is untouched and unquestioned. The other force, more chaotic and spontaneous, is the uncontrolled and unforeseen interpretation of such discourse, and the way the constitutive free software

template is used in practice, how free software is produced regardless of its *usefulness*, how free cultural licenses are deployed with little regard to their cultural context, how the rational dimension of the free cultural machine ends up injected, maybe involuntarily sabotaged, with works and understanding driven by other motives.

In this final part of the thesis, it is now time to analyse more closely such machinery, and why this apparently conflictual and inefficient interaction is the main drive that has kept free culture afloat so far. Until now, I have focussed on the historical lineage of free culture that saw the birth, decay, and sometimes death, of many definitions and licenses. I have also highlighted that the motives and intentions of those using free culture licenses, and free and open source software, can deviate considerably. I have also shown how licenses can act as a surrogate for artist's statements, and by extension are truly a ready-made paratextual statement, and how these texts instruct rules that can enable powerful and critical collaborative cultural frameworks, yet for which in some cases the licensing rationalisation seems fragile, and could in fact reinforce the notions of markets, property, and authorship, that the licensee thought to initially challenge by adopting alternatives to default copyright mechanisms. Given this chaos of openness and freedom, I started to wonder how it is possible for free culture not to implode or collapse under all the different systems of beliefs it allows, and how this multi-faceted system manages to produce anything when its foundation seem to be built by diverging forces, and near constant miscommunication. To explain why, against all odds, free and open source principles are today still inspiring new variations and keep on reinventing their affiliation, I argue that

these free and open things sustain themselves, precisely because they are postponing their failure, over and over again, by the means of conflicts and tensions that provide new opportunities for its participants to learn to think and ask their own questions, opposing singular and local views with general and consensual ones,[7] as discussed previously in Chapter 2 during the transition between less defined proto-free and more defined free culture practices.

In this third and final part of the thesis I am therefore focus on this particular generative mechanism that copyright and intellectual property laws, the media and software industries, and of course the Internet, have bootstrapped in the neighbourhood of, and within free culture itself. Here I am giving evidence that clues regarding the resilience and growth of the free culture ecosystem can be found by looking right into the source of its apparent contradictions and points of friction. For this final demonstration I need to depart from and, at the same time, rely on previous analysis of aspects of free culture that have already highlighted some of its properties. There has been three decades of writing on free and open source software, and more recently free culture, which have all more or less precisely tackled many different aspects of these things, but have done so always in isolation or ignorance of the others. For instance, depending how one is looking at free and open source software, it could be framed as free labour in the context of participatory,

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[7] Here I am referring to and paraphrasing remarks from Belgian philosopher Isabelle Stengers on the question of taking position and capabilities that is institutionally removed from the public, or at best impaired and limited to ready-made non conflictual issues. See Stengers, *Au Temps Des Catastrophes*, 165–76.

yet commercially driven, fully or partially open source products,[8] or on the contrary it could be given an egalitarian and positive role to develop anarchist models of production in the network society.[9] These narrow views have led to the drawing of radically opposed conclusions and speculations, and it is my desire with this last part to depart from these single specific forms of analysis, and instead draft a model in which all these oppositions, contradictions, and possible misunderstandings are given an essential role.

Ultimately, I argue that conflict, unlike the way it is often perceived,[10] should not be seen as an agent against cooperation which requires mediation, but as the unseen glue that prevents these free and open cooperative modes from falling apart. Here my analysis aims to stand against the narrative of equal representation and transparency, and more precisely, the semantics wars in proto- and defined free culture are therefore not wasteful efforts to defend one's territory in the name of a locally-defined freedom and openness, against another locally-defined freedom and openness.[11] Far from being apolitical, they implement politics as a messy assembly of dissembling,[12] which is not fuelled but very much threatened by any endeavour to turn these things into a cohesive and

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[8]   See Terranova, "Free Labor."
[9]   Moglen, "Anarchism Triumphant."
[10] Benkler, *The Penguin and the Leviathan*, CHAPTER 5: Why Don't We Sit Down and Talk About It?
[11] With locally-defined, I mean to say definitions of cultural freedom that are only specific to a limited group, project, or context, and that cannot be generalised outside of these.
[12] Here I make reference to Bruno Latour's invitation to revisit the ideas of assembly and gathering. Bruno Latour, "From Realpolitik to Dingpolitik or How to Make Things Public," in *Making Things Public : Atmospheres of Democracy*, ed. Bruno Latour and Peter Weibel (Cambridge: MIT Press, 2005).

uniform movement, a one-size-fits-all formula.

In that sense, the radical democracy approach, from Mouffe, and suggested by Berry and Moss as an alternative to broaden the relevance and purpose of a movement concerned with the liberation of culture,[13] is not an alternative to be wished for,[14] but as I have shown in Chapter 2, was in fact *already* present since the early days of proto-free culture, albeit not as a conscious mechanism, and then tamed and forgotten with the rise of aggregative and deliberative attempts to frame cultural freedom and filter licenses.

To illustrate my argument, I will give a particular attention to the environments in which such conflictual cooperation and gatherings occur. To start with, in Chapter 6 I will argue that the software engineering approach to free cultural production cannot offer a universal model. In particular, the notions of usefulness and source code cannot be literally translated into all practices, which, I will argue, leads free culture to promote a world of digital commons made of digital files and leave the definition of freedom as a technocratic obfuscation that hides its struggle to translate software freedom to the non-software realm. I will then discuss the consequence of that in Chapter 7, in particular the fact that the free culture implementation of classic liberalism reduces cultural value to ac-

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[13] Berry and Moss, "The Politics of the Libre Commons."

[14] As a matter of fact, Berry and Moss go as far as suggesting their own *Res Communes* and the *Res Divini Juris* licences, which demonstrates their participation in an already existing enclosed radical democratic space. So unlike their claim, such novel licenses do not provide a new politico-democratic device but simply contribute to an existing political agglomerate within free culture.

cess and potentiality of information, and the reason why file permission[15] inspired metaphors have often been used to support the remix-ability of cultural expressions as a goal. However, by pushing such file permission metaphors to their limits, I will argue that access and potentiality of files that constitute the digital commons does not imply control and sovereignty over said commons, and that it is more important to look at the systems and environments that produce knowledge around, and help materialise, free cultural discourses. Having established the importance of these environments, I will introduce the term sandbox as a rhetorical tool to explain how such environments operate; and as an overlooked, yet crucial technological witness, that can help understand the metaphorical transformations that have contributed to turning software and licenses, into groups that can accommodate any forms of values and transactions, yet that can be fully embedded inside other groups with opposite forms of values and transactions. Finally, in the last chapter of the dissertation, Chapter 8, I look at what happens when the sandbox fabric is torn up, when these environments that have been called home[16] turn into a deceptive architecture. I will examine what strategies exist, from code and license forking, to software exile, that permit the postponing of existential collapse and failure that I am referring to earlier, and that at long last translates conflicts and tensions into the unspoken apparatus of free

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[15] File permissions are the set of rules that define and regiment access to digital files in a computer, for instance whether or not a user can modify a file. This will be explained in more details in the chapter.

[16] This is another reference to the organisation of computer file systems, namely the location where a user stores their personal files. This will also be explained in details in the chapter.

culture.

Chapter 6

The (Almost) Endless Possibilities of the Free Culture Template

6.1   Free Software Art Publishing

Debian, which has been mentioned several times in this thesis, is a collection of free and open source software put together to form a complete operating system (OS) that is called a *distro*. To be more exact it is a Linux distribution, or a GNU/Linux distribution when it is desirable to put the emphasis on the fact that many such distros rely at their core on the combination of both the GNU OS—without its kernel called Hurd—and the Linux kernel.[1] Indeed, Debian is by no means the only distro

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[1]   For a more extensive account of the historical relationship between the GNU OS project and the Linux kernel project, and the controversy around the term

available. According to the webzine LWN, there are at the time of writing nearly five hundred active distros.[2] However, looking at the vertiginous *GNU/Linux distribution timeline*,[3] it is striking to see that the majority of these distros are derived or still directly dependant today, on only three free software collections that started in the early nineties: Debian, Slackware, and Red Hat. The free software techno-legal template, is therefore not limited to the appropriation of licenses, it also operates at the level of software code, and in this case, provides the ability to create different operating systems fine tuned for all sorts of purposes and communities. But the amount of users is not evenly distributed, and according to DistroWatch, a website dedicated since 2001 to tracking the development and releases of free and open source Unix-like OS, there are, at the time of writing, ten "most widely used" Linux powered *major* distros: Linux Mint, Ubuntu, Debian GNU/Linux, Mageia, Fedora, openSUSE, Arch Linux, CentOS, PCLinuxOS, and Slackware Linux.[4]

Most distros provide the usual graphical user interface (GUI) desktop metaphor similar to Mac OS or Windows, and a collection of free and open source software for both general and specialised tasks. But next to a standard default selection, these operating systems are connected to several repositories of software, that allow the user of the system to add more software and adapt the OS to their needs and liking. In this con-

GNU/Linux, see Williams, *Free as in Freedom*, Chapter 10 GNU/Linux.

[2] "The Lwn.net Linux Distribution List," *LWN*, 2017, https://lwn.net/Distributions/.

[3] Andreas Lundqvist, "GNU/Linux Distribution Timeline," 2012, http://futurist.se/gldt/.

[4] Unsigned Integer Limited, "Top Ten Distributions: An Overview of Today's Top Distributions," 2017, https://distrowatch.com/dwres.php?resource=major.

text, free and open source software customisation can therefore happen at two levels: first by picking a particular distro whose base content has been curated by others, and second by adding software packages that are compatible with the distro, and generally accessible on networked repositories specific to the chosen distro.[5] The flexibility of these operating systems is such, that almost any distro, whether general or specialised with many standard packages provided by default, can be made minimal and bare bones again by removing packages, and changed into something radically different at a later stage. Regardless if the distro provides pre-compiled software or not, the source packages maintained by distro developers, maintainers, and also sometimes less officially by the users themselves, tend to provide the same things: the original source code written by the original software author(s), as well as optional patches to apply on top of it, and the license(s) under which these files are published; the metadata of the distributed software, that is its description, category, and a list of author(s) and maintainer(s); as well as the technical prerequisite of its installation, that is to say, a list of other packages needed to be installed before, and which the package is dependent. Last but not least, any changes in these files are logged and stored in the packages them-

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[5] A third level also exists, which is the ability for the user to manually compile other software sources and modify the system quite extensively. This aspect goes beyond the OS ecosystem itself but is interesting to consider given its link with commercial activities relying on copyleft or permissive licensing and which ship products based on existing operating systems, customised and sometimes integrating closed source software as well. An example of this would be the operating system running on broadband wireless modems and routers, that can be based on a Linux operating system and a few more free and open source software projects, the source code of which must be shared by the manufacturer, but not the source code of any other software written by the latter and yet bundled in, and vital to the functionning of the device.

selves or external databases. These changes combined with the storage of previous versions of the software, and its source code, and the ability to access these at any time, literally turns almost any distro into a vast software archaeological excavation site. If this transparency and traceability facilitates communication and the efficiency of technical infrastructure needed for making these distros, it is also a side-effect of the free cultural licensing of the distributed software.

Another consequence of the publishing model enabled by free culture licensing, is that the packages can be mirrored online by anyone with enough storage space and bandwidth. From a user perspective, package managers—administrative software developed by the distro developers—can then be used to install, remove or upgrade software, which simplifies greatly the maintenance of one's operating system to one's liking.[6] Furthermore, this process is not unidirectional, because users are often given the possibility to help and give feedback by writing documentation, submit bug reports, write patches for their favourite software, suggest new software to be packaged, and even maintain such software themselves by also becoming official maintainers and developers. They can also simply publish other or slightly different software in unofficial repositories that can be used by other distro users. What is striking here, is that these systems are not mere advanced forms of prosumerism, because their whole infrastructure can be re-appropriated and derived into new

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[6] In a way these package managers could be perceived as similar to app stores, that are popular nowadays and found in mobile and desktop operating systems. However, app stores notably do differ in the way they introduce a hierarchy of usefulness, where optional applications are given most visibility, as opposed as traditional package managers where no particular filtering is enforced.

projects, new operating systems and software collections as shown with the overwhelming amount of distros available.[7]

This is why so many distros can be produced and distributed. These can be of different nature, as not only technically specialised distros can be released, for instance focused on network security[8] and privacy,[9] scientific computation,[10] or medical applications,[11] but also any community has the potential to manifest its interest or ideology under the form of a distro: enter the stranger than fiction realm of Ubuntu Christian Edition,[12] the North Korean Red Star OS,[13] and of course Biebian, the Justin Bieber Linux distribution.[14] This level of customisation is such that it has become its own aesthetics, as software artists Gordan Savičić and Danja Vasiliev illustrated with their 2011 work *The 120 days of *buntu*, a collection of 120 modified Ubuntu Operating Systems.[15]

To be sure, I use Linux distributions as an example here, given their

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[7] It is out of the scope of this research to dive into the specifics of what precisely constitutes a distro, in practice there are some significant differences from one distro to another. For instance some are truly put together from scratch, while others are customising an existing operating system, or combining different sources of prepackaged software. Some distro also start provide such level of customisation within their own installation process, such as the Debian Pure Blend project. See SPI, "Debian Pure Blends," 2016, https://www.debian.org/blends/.

[8] Kali Linux, "Kali Linux | Penetration Testing and Ethical Hacking Linux Distribution," 2017, https://www.kali.org/.

[9] The Tor Project, Inc, "Tails - Privacy for Anyone Anywhere," 2017, https://tails.boum.org/.

[10] Fermi National Accelerator Laboratory and European Organization for Nuclear Research, "Scientific Linux," 2017, https://www.scientificlinux.org/.

[11] Debian Project, "Debian Med," 2017, https://www.debian.org/devel/debian-med/.

[12] Jereme Hancock, "Ubuntu Christian Edition – Linux for Christians," 2012, http://ubuntuce.com/.

[13] Korea Computer Center and North Korea, "Red Star Os," 2013.

[14] "Justin Bieber Linux," 2011, http://biebian.sourceforge.net/.

[15] Danja Vasiliev and Gordan Savičić, *The 120 days of *buntu* (Toronto: Beaver Press, 2011).

popular usage and visibility in mainstream tech media, but these modular qualities also exist in other free and open source UNIX-like operating systems. In fact, as mentioned several times in the first chapter, these properties were already visible with the birth of the Berkeley Software Distribution (BSD). In particular the extreme adaptability of Unix was the main drive behind the so-called Unix wars, and explained the reason why the different Unix-like OS failed to reach standardisation in the late eighties and early nineties.[16] If free and open source BSD-derived operating systems differ structurally from Linux distros–in the sense that BSD OS like FreeBSD, OpenBSD, NetBSD, or DragonFly BSD offer a complete base system that can at a later stage be *optionally* extended with extra software, as opposed to Linux distros piecemeal-assembly[17]—their flexibility and ability to be transformed is as powerful and was demonstrated in the commercial field due to the permissive licensing of the base system.[18] Ultimately, all these Unix-like free and open source operating systems offer an interesting publishing system, in which archiving, conservation, distribution, and access are merged into one replicable and modifiable structure.

Given this potential and possibility to adapt to any cultural context, it was to be expected that these infrastructures became at some point, also considered for the collaborative development and distribution of digital

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[16] Kelty, *Two Bits*, 5. Conceiving Open Systems.

[17] Matthew D. Fuller, "Design Philosophies," 2010, https://www.over-yonder.net/~fullermd/rants/bsd4linux/08.

[18] For instance Sony relies extensively on FreeBSD and other free and open source software for its PlayStation 4 video game console. See Sony Interactive Entertainment Inc., "Open Source Software used in PlayStation®4," 2016, http://doc.dl.playstation.net/doc/ps4-oss/.

cultural expressions, using and possibly contributing artistic works to these OS.[19] The democratisation of software production and execution in the form of free and open source Unix-like operating systems, could indeed in theory permit the existence of cooperative forms of publishing for free and open source code poetry, net art, generative art and software art, and also media art, which software elements, free culture supporters have argued,[20] could also be released under free and open source licenses and then integrated into distributed infrastructures. In practice the GNU/Linux distribution Puredyne has distributed works from software artists such as Alex McLean and Martin Howse[21] throughout the mid-noughties. Similarly, Debian and FreeBSD have distributed and maintained generative artworks such as Electric Sheep.[22] Alongside this, every now and then it is possible for media artists releasing their work as free and open source software, to be approached by distribution maintainers to help integrate their piece within free and open source operating systems.[23] It goes without saying that such software must comply with the distribution's guideline, and its localised understanding of user-

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[19] An idea notably developed in the context of the Debian ecosystem. See Javier Candeira, "Towards a Permanently Temporary Software Art Factory (Notes for the Sustainability of Software Artifacts)," in *Readme 100*, ed. Olga Goriunova (Norderstedt: Books on Demand GmbH, 2006), 105–21; Annet Dekker, ed., *Archive2020: Sustainable Archiving of Born-Digital Cultural Content* (Amsterdam: Virtueel Platform, 2010), 5; Anne Laforet, *Le Net Art Au Musée: Stratégies de Conservation Des Oeuvres En Ligne* (Paris: Questions théoriques, 2011), 162.

[20] Anne Laforet, Aymeric Mansoux, and Marloes de Valk, "Rock, Paper, Scissors and Floppy Disks," in *Archive2020: Sustainable Archiving of Born-Digital Cultural Content*, ed. Annet Dekker (Amsterdam: Virtueel Platform, 2010).

[21] Laforet, *Le Net Art Au Musée*, 162.

[22] Scott Draves, "The Electric Sheep Screen-Saver: A Case Study in Aesthetic Evolution Applications of Evolutionary Computing," *Applications on Evolutionary Computing* 3449 (2005): 458–67.

[23] See Laforet, Mansoux, and Valk, "Rock, Paper, Scissors and Floppy Disks."

friendly applications, or *usefulness*, to refer to the FSF free software criteria discussed in Part 2 of this thesis.

However it is at this point that things start to get complicated and the free software template shows some limit. While there was no trouble for a work like Electric Sheep—that essentially and effectively runs as a screen saver—to be accepted as part of large public repositories from several Linux distros and BSD operating systems, the same cannot be said, maybe thankfully, for other types of digital and media art, in particular software art. If free software contributed to ontological freedom,[24] it is not surprising to see that the resulting cultural expansion can no longer be contained by the very structure that gave birth to it. Said differently, here free software art not only radically challenges the conservative FSF understanding of software as something *useful* , but once distributed within an operating system, also makes it ambiguous and difficult to separate the OS-as-platform to distribute software art, from the OS-as-software-art itself. The adaptability of free and open source operating systems, and therefore the possibility for such publishing strategies to exist outside of major distributions, does not help either. For instance, Puredyne,[25] mentioned earlier, started as a single user operating system containing free software art works from several artists. However, Pure-

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[24] Cramer, *Words Made Flesh*, 123.

[25] Also known as pure:dyne and which found its root as a heavily modified version of the dyne:bolic or DyneBolic distro, itself inspired by and originally based on development tools of LoA hacklab's Bolic1 distro. See GOTO10, "[Spectre] Pure:dyne 2.3.6 Release - a Gnu/Linux Distro for Media Artists," 2006, http://post.in-mind. de/pipermail/spectre/2006-December/007412.html; jaromil and lobo, "dynebolic," 2004, https://web.archive.org/web/20040102094646/http://www.autistici.org/bolic1/ dyne.php; Adnan Hadzi, *Deptford. TV diaries* (London: Deptford. TV, 2008), 59.

dyne was also used by its developers to teach workshops and provide a platform to encourage artist to use and write free software. As a result it became more than a singular collection of software shared within a small community of free software artists, eventually evolving into an hybrid Debian-Ubuntu distribution, funded by Arts Council England and used as a media art teaching tool in art organisations, academies and universities.[26] In this educational context with a strict separation between tools and works produced, software culture became an hostage in a discussion on the pragmatic aspect and usefulness of Puredyne as a whole.

This transformation became conflictual for the Puredyne distro, now that its new users, external to the free software art networks from which Puredyne stemmed, were confronted with a system in which no safeguarding was offered and that was simultaneously a proof of concept free software art distribution system and a fully functional Unix-like OS. The safeguarding that I am making reference to is dual: first it assumed that the users would not need to be constantly assissted or prevented from doing foolish things, such as wiping out all their data; second, the artistic computation was not separated or isolated from the rest of the system. This second point in particular was discussed during the FLOSS+Art panel at the 2007 edition of the Make Art Festival,[27] Poitiers, France, and specifically on the question of what would be the consequence if the Puredyne developers modified the source code of a work (Figure 6.1)

26 Julian Brooks, Joanna Brooks and Pierre Alexandre Tremblay, "Across the Great Divide," *Journal of Music, Technology and Education* 5, no. 2 (2012): 145–157.

27 GOTO10, "FLOSS+ART : Make Art 2007," 2007, https://archive.bleu255.com/makeart/2007/?page=floss&lang=en.

Figure 6.1: self3[cpu]
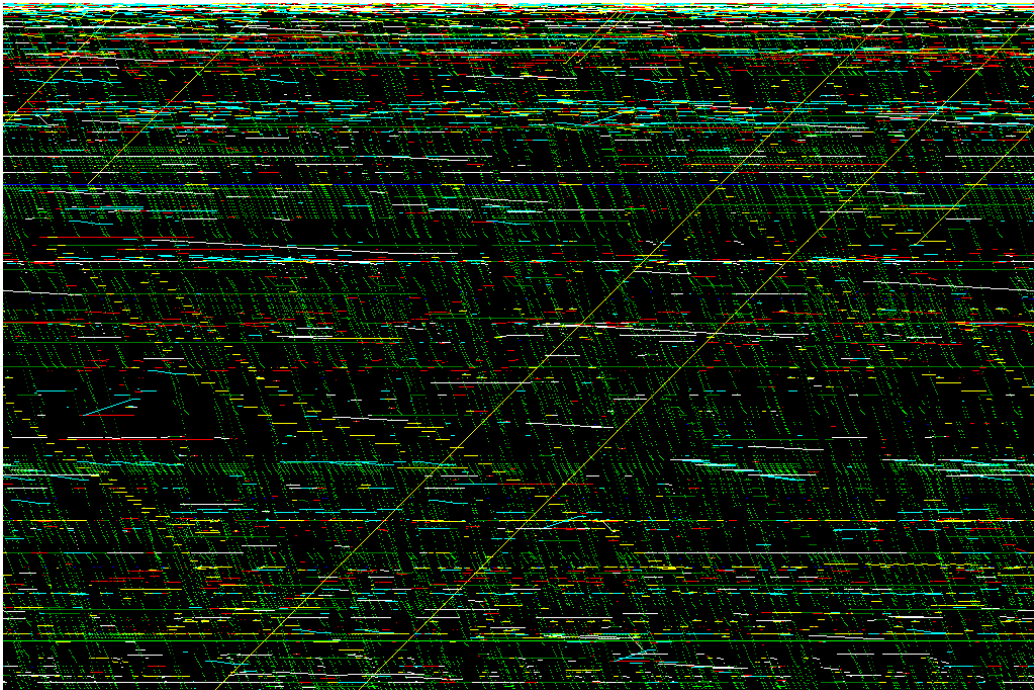
Screenshot: Martin Howse, 2006

from Howse, so as to provide a version of the software with a more *user friendly* program exit mechanism, that is to say, a simple way to quit the application. This functionality was not present in the original program, and Puredyne users had complained they did not know what to do once they started the program, and were forced to reboot their machine to make the software stop. This posed a particular problem precisely because Howse's work in his collaboration with English performer Jonathan Kemp, essentially drew inspiration from, and also used, operating system mechanisms, including the notion of interrupt signal. The latter mechanism ended up in this case at the conflicting point of being both an artistic material for Howse and Kemp, and a critical system feature needed for a classic desktop interaction.

Some other works also touch so directly on the underlying mechanics of the operating system, that they prove very hard to publish in an executable form, and distributed even in free software art distributions like the first iteration of Puredyne would have permitted. For instance, McLean's *ungovernable.patch*, a 2011 free software licensed modification to the Linux kernel that reverts the standard CPU throttling behaviour, makes the CPU frequency decrease under load and increase when the machine is idling,[28] and would be unlikely to be accepted in any Linux based OS that aimed to be fully functional, given this very functionality is questioned by this work. In the end, even liberated from proprietary and closed systems, software art remains an aspect of computational culture that resists entirely free cultural infrastructures, despite

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[28] Cox and McLean, *Speaking Code*, 57–58.

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an apparent closeness in the way they relate to care of software crafting, expressibility of programming, and the sharing of tools. Even if free software allowed software art to expand itself towards technological layers not accessible in closed source and proprietary systems, it did not change its nature of being unsustainable by design—therefore useless and problematic computation—making moot the question of normalisation of such practices within large scale techno-legal infrastructures. As briefly shown with Puredyne, free software art's viral property does not exist solely at the licensing level, nor the source code, but the execution of software, that can compromise the OS as a whole if not contained or diminished. Next to that, the *code brutalism*[29] of these works clashes with the polished and organised idea of distributed, cooperative, and to some extent decentralised approach to software art publishing. If such systems would be possible, beyond indexing and classification,[30] they would not be able to provide more than tamed software art, similar to those found in app stores, and which brutalism becomes emulated or simulated, as glitchy gimmicks sandboxed in a software white cube, and isolated from the computational usefulness of the rest of the system.[31]

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[29] Yuill, "Code Art Brutalism."

[30] Such as Amy Alexander, Olga Goriunova, Alex McLean and Alexei Shulgin, "runme.org - say it with software art!" 2002, http://runme.org/.

[31] In this context, it is interesting to put in parallel projects such as the Satromizer iPhone app and the early performances from group 5VOLTCORE. While the two relate to glitch aesthetics, the first is essentially a standalone graphic tool available from the Apple App Store, whereas the second is about direct and abusive live intervention on computer chips. See Ben Syverson, "Satromizer for IPhone, IPod Touch, and IPad on the ITunes App Store," 2009, https://web.archive.org/web/20100212083220/http://itunes.apple.com/app/satromizer/id312566528; emanuel andel, *5VOLTCORE live*, Online video (San Bruno: YouTube, 2007), https://www.youtube.com/watch?v=mmI6DcW0OJE.

6.2   The Source of Free Cultural Expressions

Another problematic aspect I have yet to discuss is the becoming of source code, once the latter has been transposed to non-software cultural expressions. As discussed several times in this thesis, the importance of source code availability is essential in free and open source software, and the reason why such availability was fully part of the free software definition and licensing models. But what about works that are neither code or software based, which is what non-software free culture is. How would that work practically?

In Chapter 2, I provided a general overview of how the free software definition has been slowly transformed, into a series of definitions that aimed to provide the same freedom and openness for any cultural expressions. As I demonstrated, the affiliation of these definitions was both visible in style and content, and the link with their parent software-centric definitions was also blatant. In spite of that, if we take a closer look at the definitions in Chapter 1, even though the first attempt in porting the software freedom to knowledge—the *four kinds of free knowledge*—took into account the idea of source, the following proto-free-cultural attempts stopped mentioning it. The reason for this can be put simply: while computer software is a cultural expression,[32] not all cultural expressions are computer software. Therefore the computer-specific jargon, which the term source code is, was eventually lost in translation.

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[32] See Fuller, *Behind the Blip.*

So free cultural definitions are after all not a perfect transposition of free and open source software definitions, due to the lack of, or incomplete, approach to defining what is a source. This is not specific to one particular approach to free culture, but all the free, libre, and open content, knowledge, expression and work ideas that emerged from the proto-free culture era. If the notion of source code is not easily transposable to non-software free culture, I will argue that its absence is problematic and needs to be addressed.

First of all, from a simple pragmatic perspective, the consequence of the absence of source means that it is fine to publish and distribute *any* content. For instance a low-resolution, highly compressed, photo or video can be distributed freely under these licenses (Figure 6.2). But then, while these files would perfectly qualify as valid work under their respective free and open definitions, their value becomes questionable when the high-resolution, raw, or less destructively compressed *original* digital file, can still remain under other copy or licensing rights. Here the software equivalent of this process would roughly be the so-called shareware, a freely distributed, usually closed source, software distribution mechanism in which the full potential of the software is unlocked only once the user has paid a fee, which would roughly translate for non-software objects, in paying licensing rights to acquire such sources, in the eventuality these would be anyway available under such type of classic licensing. Here the term licensing can be confusing. A work can be licensed under a free culture license allowing a usage defined by the terms of the license, but licensing can also refer to any unilateral permissive process, and in some case reciprocal contracts, in which a

Figure 6.2: A maybe free and highly compressed thumbnail

Image: Anonymous, 2013

work can be commercially licensed for a specific use. For instance a musician can license their music to an advertisement company to be used in a television commercial, in exchange for a fee. The two forms of licensing, classic and free culture, do not necessarily exclude each others. For instance the music platform Jamendo, invites artists to contribute free culture licensed music, and at the same time provide commercial licensing to businesses and individuals so they can use the music royalty-free.[33]

Another aspect is what the Freedom Defined project calls the "practical modifiability" of a work,[34] which is how in practice a work can be appropriated and modified by someone else. For instance, if the licensed work is an image composed of several elements, its practical modifiability is affected if the author decides to publish such an image exclusively as a flattened down work, or if instead the author also provides the layers used to make this final image. To make things more difficult to follow, there is also an unavoidable recursive mechanism triggered by the existence of such external pseudo source files. Indeed, and still using the example of a digital collage, one can ask what would happen if the layers provided were themselves derived from other originals? Shouldn't these

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[33] Jamendo claims that it uses a fair model to redistribute the financial gain to the artists for this commercial licensing, therefore acting as an automated agent for works that are not commissioned, but in fact they are essentially crowdsourcing their catalogue for free. Jamendo also suggests artists to use NC licenses combined with the Jamendo licensing agreement, to make sure they will be paid for their work, whereas in fact it is a barely disguised strategy to make sure only Jamendo can exploit commercially their work.See Jamendo, "Jamendo Royalty Free Music Licensing - Stock Music for Commercial Use," 2017, https://licensing.jamendo.com; Jamendo, "How Are Creative Commons Licenses Compatible with Jamendo Licensing? What CC License Should I Choose to License My Music?" 2017, https://artists.jamendo.com/en/artists-faq.

[34] Freedom Defined Wiki, "Licenses."

also be included? What about the font used for a caption or logo, what would be the practical modifiability of a rasterised text layer? Would it make sense to provide the font file? If someone wants to practically modify the file at a level that is not a mashup or remix using the flatten and merged output—essentially a product of passive consumption—then such elements are in fact very much needed, and the difficulty of distributing and accessing grows in proportion with the composite depth of the image (Figure 6.3). The same could be said of course of music as free culture licensed mp3, ogg or FLAC digital files, as opposed to music as free culture licensed score, separate audio tracks, OSC and MIDI digital dumps of the parameters for the hardware and software synthesizers, settings of the sequencing software, and so forth. And to make things even more complicated, if an author is to distribute the source of their work, this source being a distinct cultural expression itself, the author is free to distribute the material under separate licenses. Several questions come to mind. Is it acceptable then for free content to have its assets under non free culture licenses? Is it acceptable if these external cultural expressions are freely licensed, yet using closed standards from proprietary software? How far can these ideas of free, and open, content or works can be pushed?

To address such issues, Myers, whose work was introduced in Chapter 4, offered an idea on what an ideal cultural source could be.[35] He suggested considering five attributes which are: transparent, in an easily editable text-based format; full quality, in a standard that permits the

[35] See Rob Myers, "Cultural Sources," 2007, http://robmyers.org/weblog/2007/08/26/cultural-sources/.

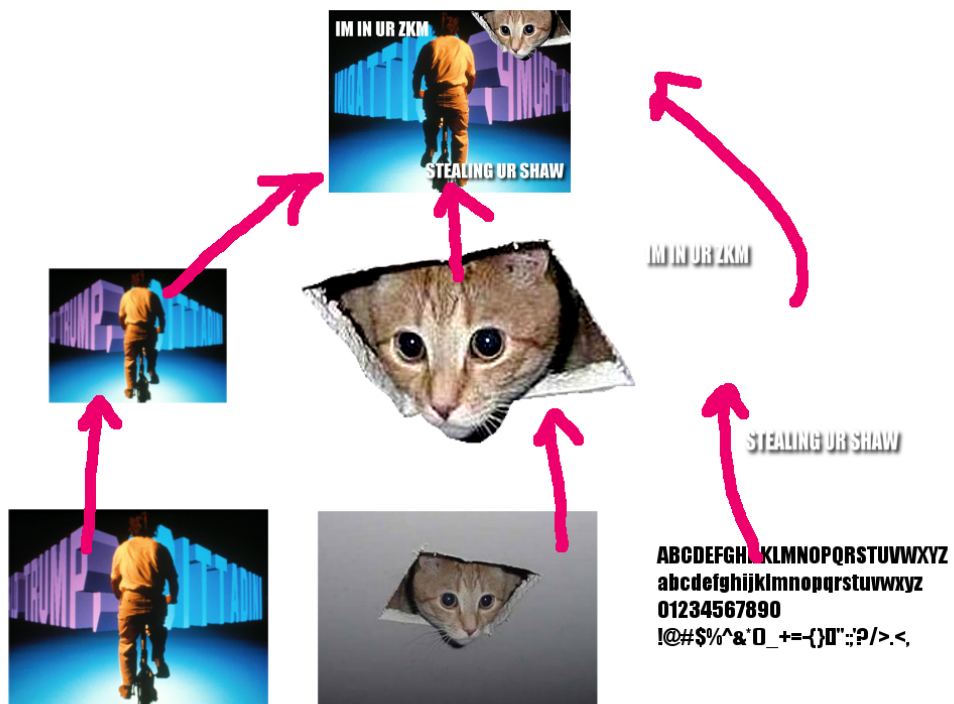Figure 6.3: How deep is your source?

Image: Anonymous, 2013

recreation of the final format; complete, so that all the materials needed to produce the distributed work are provided; unencumbered, that is free of patents and DRM; structured, as in provided in a descriptive format, such as vector graphics. This theoretical approach is however not fully translated in practice. It is worth noting that the FSF, with the 2000 GNU Free Documentation License (GFDL), had attempted to tackle this problem already, and most notably the notion of transparency, needed for the collaboration on, and the distribution of free documentation.[36] To date, in the history of proto-free and free culture definitions, only Freedom Defined tried to address this issue. According to them, to truly be a free cultural work, a work must respect four more conditions, and one that is specific about the notion of source data:

> Availability of source data:
>
> Where a final work has been obtained through the compilation or processing of a source file or multiple source files, all underlying source data should be available alongside the work itself under the same conditions. This can be the score of a musical composition, the models used in a 3D scene, the data of a scientific publication, the source code of a computer application, or any other such information.[37]

There is however an important flaw in this approach: unlike free soft-

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[36] The license was notably used by Wikipedia which later in 2009, demanded the FSF to change the license, using the infamous "later version" loophole present in most FSF licenses, to make the content of the online encyclopaedia compatible with the trending CC BY-SA license, to which it eventually switched without requiring authorisation from the GFDL copyright holders. For some context see Free Software Foundation, "GFDL v1.3 FAQ," 2014, https://www.gnu.org/licenses/fdl-1.3-faq.en.html; timothy, "Wikipedia Moving from GFDL to Creative Commons License," *Slashdot*, 2009, \url{https://news.slashdot.org/story/09/05/21/2317253/wikipedia-moving-from-gfdl-to-creative-commons-license}.

[37] The Definition of Free Cultural Works project, "Definition of Free Cultural Works 1.0."

ware licenses that legally implement the free software definition, this extra condition of source data availability is not part of any free culture approved license terms. It is simply part of a guideline to decide whether or not a work could truly be called a free cultural work. Said differently, an author does not have to respect this clause when using a free culture license, because it is not part of the license conditions. In practice, it is therefore possible to distribute works that are not truly free with free culture licenses, literally turning free culture into a messy mix of both free and non-free cultural expressions. If the different free cultural techno-legal systems were not already confusing or difficult to navigate through, they are now genuinely Kafkaesque. Creative Commons even uses the misleading term "approved for free cultural works,"[38] for its licenses that respect the free culture license definition, whereas it really should say that such or such licenses are free culture licenses, no less, no more.

In practice, a thorough publication of properly licensed source materials for works of art is rare, and is usually limited to artists and collectives already close to free and open source software communities, such as software artists using free software as a framework. Similar to Vilayphiou and Leray's design practice, exposed to this particular mode of production and distribution in their daily use of free software tools, these practitioners eventually applied the same philosophy with their work, and make many elements of the latter publicly available in repositories, us-

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[38] The affiliation is made visible with a graphical badge in the human-readable summaries of their licenses. See mike, "Approved for Free Cultural Works," 2008, https://creativecommons.org/2008/02/20/approved-for-free-cultural-works/.

ing different software licenses.[39] This aspect is particularly obvious for artists and designers using free and open source Unix-like operating systems, and who are therefore exposed to these replicable infrastructures and their modes of distribution which rely on source code. For instance with Debian, the connection between source code and freedom is clearly expressed in its own free software guidelines:

- Source Code

The program must include source code, and must allow distribution in source code as well as compiled form.

[...]

- Integrity of The Author's Source Code

The license may restrict source-code from being distributed in modified form underline{only} if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. The license must explicitly permit distribution of software built from modified source code. The license may require derived works to carry a different name or version number from the original software. (This is a compromise. The Debian group encourages all authors to not restrict any files, source or binary, from being modified.)[40]

Infused in such a habitus, these artists adopt them in their own practice, sometime expressing the moral imperative to share back regardless of the computational usefulness of their work, simply because the latter would not exist in the first place without the access to such tools.[41]

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[39] See Lee, "Art Unlimited."
[40] Perens, "Debian's 'Social Contract' with the Free Software Community."
[41] This explanation comes up fairly often in interviews. See Romero, *FLOSSOFÍA: El Software Libre en el Arte*; Annalisa Cannito, Chui Yong Jian and Santiago Bence, *Arts Meets Radical Openness*.

However, such an attitude towards the meticulous sharing of source material is unlikely to become popular, due to the complete or partial disappearance of an articulated concept of source. In fact, by cleaning up the computer jargon when software freedom was transposed to culture, the moral justification of free software which was embedded in this idea of source code availability, disappeared as well. In spite of the idea of defined deliberative free culture presented as an ethical counterpart of the aggregative market driven CC licensing that I discussed in Chapter 2, the ethics of free culture have no means by which to materialise. As a result, and in a strange twist, the imperfect transposition of software freedom to cultural freedom also has a negative impact on free and open source software itself:

> Can I apply a Creative Commons license to software?
> We recommend against using Creative Commons licenses for software. [...] Unlike software-specific licenses, CC licenses do not contain specific terms about the distribution of source code, which is often important to ensuring the free reuse and modifiability of software.[42]

Indeed CC licensed software, even though as culturally free as free and open source software, is in fact a pseudo form of free and open source software. For instance an obfuscated and compressed JavaScript library can easily be distributed with a CC BY-SA license, or simply a CC BY license, therefore encouraging the widespread of said library, yet making it clear that its inner mechanisms are not the concern of anyone but its original authors. In this case, free culture in practice seems closer to a

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[42] Creative Commons, "Frequently Asked Questions."

gratis sharing consumer culture rather than a liberated and empowered productive apparatus. It is also significant that in CC's perspective, as shown in the quote above, the question of modifiability is only an issue for software.

The problem of source has yet to be solved at the time of writing, but some efforts to take into account this issue are worth mentioning. In fact, as early as 2004, the Open Art Network started to work on the Open Art license (OAL), also known as the View Source license, or simply the Source License.[43] Even though this license would be considered today as non-free because it prohibited commercial use, it requested that "source file/s for the work must remain accessible to the public". Unfortunately, there was no consideration on the nature of the standard used for such source files. OAL made no difference between free software and proprietary software, and no difference between open or close file formats and standards. Another take on the question can be found in the ongoing work from French composer and pianist Valentin Villenave, on a license that would solve some of the source issues discussed so far, yet unpublished to this date. Villenave is an active member of the Copyleft Attitude community from which the free culture FAL was born, as discussed in Chapter 3. His idea is to modify the FAL, in a way that it would require the artist to provide all intermediary source material used during the creation of a work of art. This would include sketches and research in all versions. If at any given time a source element is involved, it must be

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[43] See Open Art Network, "The Source License," 2004, http://web.archive.org/web/20041208023918/http://three.org/openart/.

provided, so as to avoid a situation, according to Villenave, where what is given access to, is in fact a summary of the work and not the work as a whole.[44] This approach would be, according to the musician, a concrete way to resist the passive and commodified consumption of free cultural expressions, and connect back with the free software engineering freedom, where re-usability and modularity is necessary for any progress and innovation, and at the same time preventing free culture from turning into gratis sharing consumer culture or a shareware culture, to use the analogies I made earlier. However, with this extra step, it seems that our problem is expanding further and further beyond the recursive vertigo triggered by diving into the cultural sources of cultural sources: it is also reaching the *context* in which these very sources are created.

6.3   Sharing Is Caring but How Many Files Are Enough?

The problem with the notion of cultural source is that it is difficult to draw a clear line between a well defined cultural artefact and the context in which the latter has been produced once culture has been reduced to shareable files. Free culture does not provide a solution, but instead further stresses this reduction. What is more, this situation creates a follow-up in the digital realm to some reflections of twentieth century

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44   Valentin Villenave, "Re: Sources d'une Oeuvre (Was Re: [Copyleft_attitude] Fwd: Re: [Revenu-Existence:1310] Affiches Pour Promotion Du Revenu d'existence -> Comment Partagez Vous Vos Oeuvres Libres ?)," 2011, https://listes.april.org/wws/arc/copyleft_attitude/2011-10/msg00042.html.

American philosopher Nelson Goodman, and more precisely in his 1968 book *Languages of Art*, in which the distinction is made between *autographic* and *allographic* works of art. Goodman's interpretation of the art object is of course not developed in the context of artistic cooperation and collaboration, but it does overlap coincidently with some of the intellectual property issues covered in this thesis as it approaches the concept of authenticity by looking at the difference between originals and copies.[45] According to the philosopher's examples, painting is qualified as *autographic* because a copy of the original work is never authentic, while music is *allographic*, because the work of the composer is finished with the writing of a score that can be used for multiple authentic performances; he also notes that art can be formed of multiple stages, giving examples with printmaking being both two-stage like and *autographic*, which helps him clarify that *autographic* art must not necessarily translate into the production of one unique object.[46] These reflections on art and the work of art, leads Goodman to eventually develop a theory of notation, where stipulations are made for the creation and use of satisfactory systems of notation.[47] This approach is close to the questions of how to define the source of cultural works and what would be an acceptable medium and protocol to create and distribute these.

However, the difference with Goodman is that even though free culture seems to employ a rigorous syntactic and semantic system, its theory

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[45] Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: Bobbs-Merrill, 1968), III Art and Authenticity.
[46] Ibid., 113–15.
[47] Ibid., IV The Theory of Notation.

of notation—that is built upon software data and licenses—is not fixed; it evolves constantly. Consequently, although it escapes the reductionism employed by Goodman, it nonetheless fails to capture anything sharply despite a techno-legal apparatus that keeps on expanding. This is particularly visible for artistic practices that have emerged from this techno-legal changeability, such as live coding which originally came from the desire to use free software programming as both a performance art medium and approach to improvisation in the context of electronic dance music.[48] This particular practice is exemplary of the appropriation of free and open source in the arts,[49] but it also shows the limitation of the free culture rational, defined, and quantifiable notation system. In such a practice, "the specificity of code is opened towards the indeterminism of improvisation,"[50] however, its distributivity also make irrelevant the multiple staging analysis of art production within and outside of the scope of its reproduction, and in turn makes it impossible to determine which of all of its original sources is the most valuable.

Defining an artistic source is as problematic as defining the language of art, yet the access to increasingly sophisticated legal and technological tools, which can enforce a fine-grained versioned capture of the artistic creation, directly fuels an endless quest to capture the "participation mystique" of the poet.[51] What happens is that by being unable to extract

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[48] Alex McLean, "Hacking Perl in Nightclubs," 2004, http://www.perl.com/pub/2004/08/31/livecode.html.

[49] Simon Yuill, "All Problems of Notation Will Be Solved by the Masses: Free Open Form Performance, Free/Libre Open Source Software, and Distributive Practice," in *FLOSS+Art*, ed. Aymeric Mansoux and Marloes de Valk (Poitiers: GOTO10, 2008).

[50] Ibid., 69.

[51] In reference to Carl Gustav Jung, *Modern Man in Search of a Soul* (1933; repr., London:

universal usefulness from cultural production—as opposed to the slighty more defined usefulness of free software or free art discussed in Chapter 3—a technologically assisted brute force approach to capture everything is set into motion. The argument from Cramer that without a dump of an artist's storage device no complete works or biography can be written,[52] shows how the quantification and capture of data footprints has both revitalised discussions on intermediality, but also demonstrates the infiltration of information technology into the art discourse beyond practical questions of conservation, archiving, and documentation. This strategy of sharing as *dumping* whatever has been digitally captured, was exemplified early on with the *Praystation Hardrive* [sic] published in 2001. The later was a CD-ROM containing *raw data* from the hard drive of media artist and Macromedia Flash specialist Joshua Davis.[53] The shared data was meant to be explored, studied, and reused. Even though the content was far from being a raw bitstream copy of the designer's drive, it was nonetheless quite an impressive collection of 3637 files of all sorts and spread in a maze of folders. Some scholars made a parallel between this project and the free and open source ethos,[54] but this is a misunderstanding of how free software and open source operate, because the files were

Routledge, 2001), Psychology and Literature.

[52] See Florian Cramer, "Peer-to-Peer Services: Transgressing the Archive (and Its Maladies?)," in *adonnaM.mp3 - Filesharing, the Hidden Revolution in the Internet*, ed. Franziska Nori (Frankfurt: MAK, 2003).

[53] Joshua Davis, *Praystation Hardrive* (Wan Chai: Systems Designs Ltd., 2001).

[54] Boris Cuckovic and Hrvoje Stancic, "Open Source in Art: Originality, Art Process and Digital Preservation," in *INFuture2009: Digital Resources and Knowledge Sharing*, 2009; Matthew G. Kirschenbaum, *Mechanisms: New Media and the Forensic Imagination* (Cambridge: MIT Press, 2008), 54.

released without any licenses or copyright notices.[55] Effectively the drive fell instead into the gooey grey swamp that is unspecified public domain and default copyright laws. Still, its tremendous positive impact on the Flash user community, both as an educational and inspiring cultural artefact, demonstrated the effectiveness of a brute force approach to sharing. A strategy whose motto could be: if in doubt, share it all.

But this makes me wonder about the process of production. If the hypothetical aim here is to provide the source code of an artwork, why not try to capture the creative process as well?[56] This situation would share some resemblance with the first attempts of commercial art galleries in the early seventies, to claim back conceptual art in a commodified form by encouraging the collection of by-products, artefacts, and documents, that could generate commercial interest accentuated by the novelty practices these objects came from.[57] It also brings back the possible analogy between artistic use of free cultural licensing with prior attempts to use the contract as a means of institutional critique like *The Artist's Contract* by Siegelaub, as briefly discussed in Chapter 3. However, here the emphasis is no longer on aesthetics, but rather whether or not these practices reinforce or instead liberate the autonomy of the artist, and how these new methods of documenting, archiving, and publishing transform the language of art. These issues are important ones to take into account, in order to evaluate the becoming of the artistic practice

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[55] Email from Joshua Davis to the author, June 8, 2012.

[56] See Annet Dekker and Jeroen van Mastrigt, "Serious Archiving: Preserving the Intangible by Capturing Processes," in *Archive2020: Sustainable Archiving of Born-Digital Cultural Content*, ed. Annet Dekker (Amsterdam: Virtueel Platform, 2010).

[57] Taylor, *Avant-Garde and After*, 34.

in free culture where—as I mentioned earlier—liberation and empower-ment also creates a consumer culture of sharing; in fact a multi-layered sharing economy. So without noticing it, the frustration coming from the lack of definition of artistic sources, combined with the increasing digital capture of human activity, is an open door towards a commodi-fied analysis and recording of the artistic practice itself, where Snelting's awkward gestures[58] of free software craftsmanship I discuss in Chapter 4, could end being misinterpreted as movements waiting to be sampled with all sorts of sensors and captors. With increasing means by which to sample phenomenons into data sets, if there is more to these sources than just a flattened object, nothing prevents the capturing of such *inter-mediality* by also providing electroencephalographic data, DNA samples, cosmological models and more, thus transforming the capture of pretty much any phenomenon into the source of art as noumenon, and reduce culture to an ever expanding digital Voyager Golden Record, constantly challenging Lyotard's hypothesis that knowledge cannot be translated in its entirety by machines.[59] If anything at all, I might well suggest a new free cultural license, the Borges Public License, for tomorrow's librarians of Babel,[60] and their lawyers.

By only focusing on the techno-legal infrastructure that permits the distribution and the processing of data, information, and content, the value of what is being distributed and processed is however constantly

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[58] Snelting, "Awkward Gestures."

[59] Lyotard, *Rapport Sur Les Problèmes Du Savoir Dans Les Sociétés Industrielles Les Plus Développées*, 5–7.

[60] In reference to Jorge Luis Borges, *Fictions* (1944; repr., London: Penguin Books, 2000), The Library of Babel (1941).

re-contextualised. Its *raison d'être* becomes more ambivalent. As I said, the difficulty of qualifying a universal usefulness to what is shared—essentially the failure to define a universal approach to the digital commons—means that old paradigms such as quantity versus quality have became superseded by *potentiality versus accessibility*. The nineties debate on the societal benefit of digitally distributed knowledge,[61] has thus been transformed since the mid noughties into discussions on culture as a digital commons, where the latter is assessed on the function of possible opportunistic transformation and instantaneous availability. Free culture is not responsible for this but is symptomatic of this trend, and its implementation of a sharing economy does not create an alternative to this situation. It is yet another variation of an information society built on top of techno-legal pipes, in which data flows from one processing unit to another, so as to shape and develop an infinite Lego construction site. Here I make the analogy with Lego again—after introducing its connection with engineering culture and free and open source software in Chapter 1—because if the playfulness of the Lego methodology for cultural production is not so far from the *metamechanics* of Swiss sculptor and painter Jean Tinguely, it also shows that there is a limit to the translation of engineering culture to artistic methodologies. The result is the risk of building an infrastructure optimised for non-existing practices, based on shortcuts that simplify cultural production to an equivalent of industrial production, in which engineering processes and re-usability are essential for innovation.

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[61] Lévy, *L'intelligence Collective. Pour Une Anthropologie Du Cyberspace*; Lévy, *World Philosophie.*

I refer to non-existing practices because the discussion on sources and context shows that art and design practices do not always rely on existing free cultural works, and therefore have little use for what the free culture machinery excels at: the bureaucratic organisation of many digital files. In fact, even within dedicated free culture supporters, the very access to usable sources, let alone *even* finished works, from their peers is only anecdotally relevant. For instance, according to Vilayphiou and Leray, but also other graphic designers working with free software and distributing their work under free culture licenses, such as Ana Isabel Carvalho and Ricardo Lafuente from the Porto based design studio Manufactura Independente,[62] not all the material found in free cultural licensed graphic design is useful for other designers. In particular, for Carvalho and Lafuente there is a constantly moving frontier made between some low-level components deemed somehow neutral that can be useful, such as a software tool or a font, and on the other side an authorship tainted higher level artistic object, like a finalised poster design or illustration that is judged too contextually specific to be useful.[63] Here again we're confronted with the problem of staging what Goodman faced when working on the question of authenticity, but then if free culture demonstrates anything, it is that there cannot be one finite number of stages during the making of art, and that the art object itself can also move across all these stages depending on the context of its making, distribution, performance,

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[62] This comment was made to me during an interview with the two graphic designers, during the 2013 Libre Graphics Meeting (LGM) in Barcelona.

[63] This is especially visible when comparing a general vector graphics database such as the OpenClipArt library, and the much more personal vektorDB database from design group LAFKON. See LAFKON, "vektorDB," 2012, http://vektordb.lafkon.net.

appreciation ... and usefulness for others.

By trying to turn cultural fuzziness into a quasi-industrial and modular composite machine, free culture falls into the trap emerging from its own attempt to demystify cultural production, but it also fails to be representative of the cultural workers who produce such free culture. In particular the question of re-usability shows that appropriation art and remix practices are a very good demonstration of the advantage of free cultural processes over more conservative IP mechanisms, but it is also an inflated tale that helps argument more easily the question of economic accessibility and potentiality of digital culture. To be sure, I do not mean that there are no such things as remix or appropriation within free culture, but that outside specific practices, such as artistic strategies of citation or appropriation, or playful collaboration within close collectives and networks, as discussed in Chapter 2, or as witnessed in small-scale free software art collaborations,[64] they remain singular and localised processes. As for the source of a work, Leray explained to me during our discussion that from the perspective of OSP, there was possibly more value in sharing the documentation of moments of creation and explaining why these moments matter—what the collective calls recipes—rather than just dumping collections of source files and digital assets under free culture licenses. In the case of free culture supporters like OSP, it means that the brute force *if in doubt share it all* dump approach is reaching a new level, by not just

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[64] Annet Dekker, "Enabling the Future, or How to Survive FOREVER: A Study of Networks, Processes and Ambiguity in Net Art and the Need for an Expanded Practice of Conservation" (PhD thesis, Goldsmiths, University of London, 2014), 5. The Value of Openness.

preemptively providing access to the things they are unable to attribute a universal usefulness, but by also making the considerable effort to provide guidance within the dump and explain why some are useful to them. With this strategy, the rationalisation of sharing into a free cultural peer-to-peer file exchange, becomes once again the basis of a human-to-human relation.

Interlude

As shown in the second part of the dissertation, art and cultural platforms can thrive on techno legal constraints. It also explains why some elements of proto free culture, discussed in Part 1, have translated into very diverse practices. Therefore the populating of free culture is not always specific to free culture, and is more likely to relate to the nature of the environments in which they emerge. Yet, free culture supporters, with their desire to protect such environments by an over-articulation or principles and rules, overlook the fact that the very failure of this attempt does not prevent cultural development, but is instead an important component, a veritable *fruit défendu*, from which new practices and transactions will be fed. Of course, the hypothesis brought to the fore by the free culture argument, is that eventually cultural constraints will be so strong and repressive, that all these practices will end up stifled and at the service of a commodification process that harvests the work of artists.[1] However, the same logic offered by free culture when pushed to the extreme, leads to another form of commodification provoked by the endless

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[1] David M. Berry and Giles Moss, "Art, Creativity, Intellectual Property and the Commons: Can Free/Libre Culture Transform Art?" *Free Software Magazine* 6 (2005).