

Governance of Massive Multiauthor Collaboration

Linux, Wikipedia, and Other Networks: Governed by Bilateral Contracts, Partnerships, or Something in Between?*

by **Dan Wielsch**, Cologne

Dr. iur., LL. M. (Berkeley), Professor of Law at the University of Cologne, Chair of Private Law and Legal Theory, Germany

Abstract: Open collaborative projects are moving to the foreground of knowledge production. Some online user communities develop into long-term projects that generate a highly valuable and at the same time freely accessible output. Traditional copyright law that is organized around the idea of a single creative entity is not well equipped to accommodate the needs of these forms of collaboration. In order to enable a peculiar network-type of interaction participants instead draw on public licensing models that determine the freedoms to use individual contributions. With the help of these access rules the operational logic of the project can be implemented successfully. However, as the case of the Wikipedia GFDL-CC license transition demonstrates, the ad-

aptation of access rules in networks to new circumstances raises collective action problems and suffers from pitfalls caused by the fact that public licensing is grounded in individual copyright.

Legal governance of open collaboration projects is a largely unexplored field. The article argues that the license steward of a public license assumes the position of a fiduciary of the knowledge commons generated under the license regime. Ultimately, the governance of decentralized networks translates into a composite of organizational and contractual elements. It is concluded that the production of global knowledge commons relies on rules of transnational private law.

Keywords: Governance, Collaboration, Multi-Author, Open Content, Open Source, Commons, Wikipedia, Networks, Access, Licensing, GPL

© 2010 Dan Wielsch

Everybody may disseminate this article by electronic means and make it available for download under the terms and conditions of the Digital Peer Publishing Licence (DPPL). A copy of the license text may be obtained at <http://nbn-resolving.de/urn:nbn:de:0009-dppl-v3-en8>.

This article may also be used under the Creative Commons Attribution-Share Alike 3.0 Unported License, available at <http://creativecommons.org/licenses/by-sa/3.0/>.

Recommended citation: Dan Wielsch, Governance of Massive Multiauthor Collaboration - Linux, Wikipedia, and Other Networks: Governed by Bilateral Contracts, Partnerships, or Something in Between?, 1 (2010) JIPITEC 96, para. 1.

A. Open collaborative production

1 Open collaborative projects flourish. And they are revolutionizing our understanding of innovation and production practices. In the 1930s, Joseph Schumpeter placed producers at the center of economic development, saying: "It is ... the producer who as a rule initiates economic change, and consumers are educated by him if necessary."¹ For decades, this "producers' model" shaped economic and organi-

zation studies. But the economic viability of this model is linked to certain conditions. As the costs for design and communication decline due to new technologies,² innovation by single users and open collaborative innovation compete with and even displace (closed) producer innovation in parts of the economy.³ Also we experience combinations of these forms, as some of the most compelling examples of peer production seem to be *hybrids* of firms and informal patterns of coordinated behavior.⁴

- 2 Open collaborative projects involve users and others who share the work of generating a design and also reveal the outputs from their individual and collective design efforts openly for everyone to use. Such projects can evolve when a task can be partitioned into smaller modules that can be worked on independently and in parallel. Then each participant incurs the cost of doing some fraction of the work but obtains the value of the entire design, including additions and improvements generated by others.⁵ This holds true especially for online, massive multi-contributor (MMC) projects such as OSS projects and Wikipedia (“knowledge-sharing projects”) that I want to focus on.
- 3 Characteristic for these projects is that the participants use private ordering to construct a public knowledge good. Whereas for markets such public goods present a problem, it should be recognized that from the perspective of another social institution – the “network” – they are not problematic at all but instead are essential for its proper function. As for markets, the law has developed legal forms and rules for ordering. But what about legal rules for networks? Is interaction in networks governed by the law of contract, by the law of partnerships, or by “something in between”?⁶
- 6 The differentiation between primary rules for access and policy is important since the individual nature of property rights causes constraints for collective decision on access rules, whereas policy rules do not have constraints of such kinds. These constraints result from the strategy to use copyright and licenses to build a realm of free knowledge. Through such an approach, the open access movement may actually reinforce the property discourse as a conceptual framework.⁹ As the Wikipedia license migration will demonstrate, the use of licenses to craft freedom may in turn affect the meaning of that freedom. The question is how far traditional intellectual property law shall influence the crafting of a “simulated public domain.”¹⁰

B. Elements of governance for a massive multiauthor collaboration project

- 4 In the past, scholarship has emphasized the character of MMC as a spontaneous order with participation on an ad hoc basis.⁷ Less attention has been paid to the fact that some of the most important examples of MMC are *long-term* projects. This temporal aspect has implications for their legal governance.
- 5 In the following it is argued that governance of MMC projects requires three different types of rules:
 - ▶ “Access rules” that determine the freedoms to use individual contributions. Such rules create a knowledge commons.
 - ▶ “Policy rules” that define standards each contributor must meet in order to preserve the integrity of the complex project. They extend to rules about conduct and admissibility of contributions.
 - ▶ “Amendment rules” that allow for changing access and policy rules, either to further develop the project or to adapt it to new conditions in the environment (e.g., to achieve license compatibility). They serve as secondary rules.⁸
- 7 “Network” represents a specific kind of social interaction that *combines* the way decisions are taken on markets (by individuals that act decentralized and independent from each other) with the generation of synergies (additional rents) resulting from the pooling of knowledge that is usually possible only within the firm.¹¹
- 8 The main idea behind the concept of network is to describe the simultaneous presence of individual and collective interest pursuit, a “dual orientation” of actions.¹²
- 9 In an open collaborative project, users retain their peculiar motivation (striving for reputation, fun, etc.) and initiative (they are not obliged to contribute), and they contribute whenever they want to and whatever they regard as interesting and appropriate. Unlike in a firm, no central coordination of contributions takes place: participants do not act according to the decisions in a hierarchy, just implementing a given plan. Yet at the same time, the fruit of the individual contribution is levied for the sake of collective interest. This is achieved through the legal instrument of “copyleft” that instrumentalizes copyright in order to make it possible for others to use the contribution freely. With the help of this “socio-legal hack,” the exclusive right is not waived; instead, its function is reversed from the safeguarding of the prerogatives of the author to the safeguarding of the freedoms of the user.¹³ As a result, the right to use the contribution is dispersed to anyone.
- 10 Put in the words of property rights theory, the “authority to select” the use of a resource which normally is restricted to the owner gets decentralized.¹⁴ This is the genius of copyleft: due to the fact that now many users can decide independently on the use of one and the same resource, the chances for its creative employment, for a follow-on invention, get multiplied. The private crafting of a commons moves selection authority to the knowledge of the individ-

ual user. Networks thereby enable a discovery procedure much the same as in markets, but the access of individuals to resources is extended to much more than a single person would have at hand, much the same as in firms.¹⁵

II. Policy rules for MMC networks

- 11 According to this view, networks generally do not constitute bodies of collective action but instead link knots of decentralized decision-making. As Benkler has emphasized, drawing on *The Matrix*, “There is no spoon.” In the case of online networks there is code, interface, and the social relations they make possible. Wikis are a form of “social software,” mediating a social relation among individuals who have no pre-existing relations, and are weakly tied through a group interaction whose stickiness comes from the possibility of shared efficacy among its users.¹⁶
- 12 Nevertheless, the individual users share a common project that is defined by its own teleology. Each project displays its peculiar kind of complexity that affords some (perhaps minimal) criteria a single contribution must meet and some form of coordination among them. The question is: How is behavior coordinated in a decentralized network of participants? In a network whose only normative underpinning consists of the license users accept when they engage in the project? The answers will remain preliminary since there “currently exists no theory of collective action in a networked digital context.”¹⁷
- 13 In the case of Wikipedia, social norms are “internally” generated by the user community itself. Wikipedia users feel committed to five principles (“five pillars”¹⁸) that can be summarized as a “dedication to objective writing” and “the use of open discourse, usually aimed at consensus.”¹⁹ Wikipedia’s policies and guidelines are based on these general principles. Both instruments are intended to reflect the consensus of the community. While policies have wide acceptance among editors and describe standards that all users should normally follow, guidelines are sets of best practices that should generally be followed, though with occasional exceptions.²⁰ Wikipedia’s policies and guidelines exist to help editors determine the best course of action in a situation where there is no official authority assessing the quality of articles. Wikipedia’s arbitration plays a crucial role in framing and spelling out these principles. Although the arbitrators do not regard themselves as bound by precedent, the Arbitration Committee has compiled a list of the principles from all of its cases to date,²¹ considered by some as a kind of Wikipedia proto-Constitution.
- 14 Since all these policies and guidelines about how to deal with user-generated content (UGC) reflect just a (rough) consensus among the users, they are themselves nothing other than UGC. Thus, policies and guidelines can be edited like any other Wikipedia page. Yet edits that would imply a change to accepted practice, particularly such edits to a policy page, should be discussed in advance to ensure that the change reflects consensus. Consensus is normally reached through negotiation. In order to reach consensus in discussions on complex questions, “straw polls” have been used on Wikipedia almost since the beginning of the project. They do not form consensus but just measure it by indicating “where the community stands.” For example, recently a poll was held to determine the PD-Art policy. The reason was that in some jurisdictions, photographs that are intended to be faithful reproductions of old public domain 2D works of art (such as paintings) are entitled to copyright, whereas in others those photographs are considered to be in the public domain.²² At stake was one of the main policies of Wikimedia Commons, according to which only free content is accepted, i.e., images and other media files that can be used by anyone, anytime, for any purpose.
- 15 A closer look at the mechanisms for dispute resolution on Wikipedia reveals that arbitration focuses on bad behavior and refuses to resolve the content of the disputes it hears. The Arbitration Committee tries to filter out disruptive trolls, and bans are limited to instances of impersonation and flagrant anti-social behavior. Not everyone is happy with this divide between substance and process.²³ But it corresponds to the widely shared belief of users that truth will emerge from online dialectic. It also points to the notion (when it comes to the question of generalization) that there has to be a “fit” between the community and the possible dispute resolution tools.
- 16 In summary, over time the Wikipedia project has developed its own rules of conduct and effective ways to administer them.²⁴ The dispute resolution system brings in a mechanism to review conflicts by means of the self-generated principles and policies. Norm production thereby becomes self-reflective.

C. The amendment of access rules in MMC networks

- 17 A third category of rules comes into play when need for change of access rules occurs. Drawing on Hart’s distinction between primary and secondary rules, IP access rules are clearly an instance of primary rules since users “are required to do or abstain from certain actions.” Secondary rules instead are rules that “introduce new rules of the primary type, extinguish or modify old ones.”²⁵ Now, amendment of policy rules is built around consensus. When it comes to establishing policy rules, consented practices play a major role. Building consensus is also the procedure by which policy rules are changed. However,

consensus cannot be referred to for the amendment of access rules. One difference comes to mind immediately: a change of access rules does not just affect internally generated normativity but extends to state-granted legal rights as well. In this respect, amendment seems to require individual management of property rights. Thus, changing access rules in principal is channeled through contract. This may conflict with the needs of the collaborative project. Anyway, the set of amendment rules serving as secondary rules in the *Hartian* sense has to be differentiated, depending on what type of primary rule the amendment rules are related to. A good case study is the Wikipedia GFDL-CC license transition.

I. Wikipedia GFDL-CC license transition

- 18 With the rise of the open access movement came a variety of open license models (e.g., GFDL, CC-BY-SA, Free Art license). The idea behind this variety was to tailor the license to perfectly serve the different needs of creators and projects. Although the core freedoms protected by these licenses are similar, the licenses are incompatible with each other due to their respective copyleft. A work licensed under one free public license cannot be integrated with work licensed under a second free public license; the works cannot “interoperate.”²⁶ In consequence, the realm of free culture is being fractured. Since construction of commons by private ordering draws on the scheme of property rights, the commons run the risk of being infected by the “tragedy of the anticommons.”
- 19 Wikipedia especially was in danger of being caught in such a “license trap.” Whereas at the time of its launching GFDL was a reasonable option for open content licensing, in the meantime CC has evolved to become the *de facto standard* in this field. So the challenge was to make the millions of articles available on Wikipedia and Wikimedia’s other wikis combinable with the vast body of works outside Wikimedia that uses CC licenses.
- 20 In late 2007, Wikimedia passed a resolution asking the Free Software Foundation (FSF) to update the GFDL to allow Wikipedia and similar Wikis using the GFDL to also use the CC-BY-SA license. On November 3, 2008, FSF released a new version 1.3 of GFDL.²⁷ The primary change is the addition of section 11 on “Relicensing”: “The *operator of an MMC site may republish* an MMC contained in the site *under CC-BY-SA* on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.” This new provision allows content already released under GFDL to also be made available under the terms of CC-BY-SA. Thus, a “dual licensing” model is implemented retroactively. Re-users are able to choose whether
- to reuse Wikipedia content under the GFDL license or the CC-BY-SA license.
- 21 According to the definitions in sec 11, an MMC is only eligible for relicensing if the GFDL-licensed work it contains was incorporated prior to November 1, 2008. This constraint is not only necessary to protect the autonomy of site operators to decide whether to relicense or not. It also complies with the key condition of the FSF to prevent GFDL-licensed software documentation from being re-licensed without the permission of the authors. The fear was that externally originated GFDL content would be bulk-imported and bulk-relicensed.
- 22 Though understandable, this eligibility provision splits up GFDL licensors in two groups: those who contributed to an MMC and those who did not (namely authors of software manuals as the original audience of the GFDL), the latter keeping their autonomy to decide for dual licensing (“*quod licet Jovi non licet bovi*”). It also required an opaque maneuver involving just the heads of FSF and Wikimedia Foundation, excluding discussion among the community: “While an earlier draft was published, the specifics of the migration process have been negotiated privately in order not to allow for such systematic bulk-relicensing by interested third parties.”²⁸ Why did FSF cooperate at all? FSF was fully aware that something unusual was going on: “Normally, these sorts of licensing decisions can and should be handled by the copyright holder(s) of a particular work. However, because Wikipedia has many copyright holders, the project needed some alternative way to accomplish this, and we’ve worked with them to provide that.”²⁹
- 23 From the perspective of the individual contributor, the license migration procedure was highly mediated: through the new release of GFDL, the one organization (FSF) afforded another organization (WMF) the right to relicense all the user-generated content on Wikipedia, affecting the rights of innumerable contributors. To be crystal clear on what sec 11 means: “Relicensing can only be done *by the operator* of such a website, not by any other party.”³⁰
- 24 The way the community was brought back in was in the form of a referendum among the users with the help of which WMF intended to get legitimation for the change.³¹
- 25 “It is expected that we will launch a community-wide referendum on this proposal, where a majority will constitute sufficient support for relicensing.”³²
- 26 Indeed, a Wikimedia-wide vote was conducted between April 12 and May 3, 2009. The poll was open to any registered user of a WMF project with at least 25 edits in the past. From a total of 17,462 votes cast, 75% were in favor of the change. Yet the final and

legally relevant decision was reserved for the *WMF Board of Trustees*: on May 21, 2009 it passed the “Licensing update approval resolution” by which it exercised its option under the new GFDL.³³

- 27 Besides the fact that the whole migration process was dominated by organizational actors (FSF and WMF), what seems confusing is that the procedure for changing policy rules was also applied to the issue of license migration. Or, put more precisely, amendment rules on policy rules were conflated with amendment rules on access rules. From the perspective of the distinctive concept of the network (as opposed to markets as well as to firms), this may seem awkward because it has to be considered that networks generally do not constitute bodies of collective action but just emerge from interaction of autonomous individuals. However, the pressure to collectivize the management of individual rights in the Wikipedia network may indicate the need to distinguish between different types of networks depending on the grade of collective elements (but still outside the framework of corporate law). The reason for a tendency to collectivization in Wikipedia seems to be rooted in the importance of commonly built knowledge goods.

II. The idea of a fiduciary for the commons

- 28 There is an obvious tension between the individualistic baseline of a network of users and the necessity of creating and protecting the commons that nourish the project. The reason is rooted in the peculiar kind of reciprocity the users must obey when they engage in the project. The individual user contributes without having the guarantee that others reciprocate. There is *no obligation of reciprocity*. Unlike in a partnership that is constituted by multilateral contracts, in a network there is no explicit and enforceable obligation to promote a common purpose. This puzzles not just the law but also economic theory.³⁴ Some contend that participants benefit from “indirect appropriation.”³⁵ In contrast, those who assume (under a Humean approach) that other-regarding preferences are fully capable of directly motivating people regard the existence of peer production rather as the result of a convention.³⁶ But neither point of view dispenses with answering the question of who is taking care of the commons in a network.
- 29 In the beginning, it might be unavoidable – and even appreciated – that a single person takes initiative. Most likely nobody would have negotiated the terms of the GPL. It was the quirky idea of Richard Stallman: a true act of foundational sovereignty that was explicitly aimed at creating the conditions for a knowledge commons. But how are the commons being protected over the course of time? How is the entirety of project-related licenses adapted to a changing environment? Who can handle the issue of *standardization* in independent licenses?
- 30 The problem is that trans-individual effects have to be addressed directly. Usually, emergent social effects are not lobbied for.³⁷ This also holds true for licenses since these effects are not mirrored in the individual interests of the licensor. Here a new idea comes into play: the idea of a steward or “fiduciary for the commons” who acts as a proxy for the public. The GNU-GPL was created on behalf of the innumerable contributors to an open software project (and ultimately on behalf of the project itself). This is underlined by the fact that the GNU-GPL is program-independent. Similarly, Wikipedia’s institutional and technological infrastructure was set up by Jimmy Wales & Co. on behalf of the public. In both examples the function of stewardship moved from a charismatic individual to a foundation and was thereby perpetuated.
- 31 In the case of GNU-GPL, the FSF explicitly acts as a license steward (see § 9(1) GPLv2). The process of developing version GPLv3 shows how serious it takes this role. Before the new version was released in June 2009, the FSF held a public consultation in the course of which four drafts were published and discussed.³⁸ Developers have free choice to relicense their programs under the new version. If they do, users will only be authorized to use the software under the conditions of version 3 since its copyleft-character makes it incompatible with version 2. If they do not upgrade, the rights of the user depend on the wording of the license notice. When it contains the “any later version” clause, the user is left the option of following the terms and conditions of either version 2 or 3 (§ 9(2)GPLv2, assuming that the new version is “similar in spirit”). When a program lacks this “indirect pointer” – as does the Linux kernel – the user has no choice but to conform to the terms of version 2. Relicensing Linux under GPLv3 would require permission from all the contributors involved – with hundreds of authors, each being a copyright holder, this will be highly unlikely to be achieved even if the protagonists decide to do so.
- 32 In order to avoid this stultifying effect for existing projects, the FSF requires each author of code incorporated in FSF’s own projects to assign the copyright to FSF so that relicensing can be done by FSF alone. Like the “any later version” license notice, the request for assigning distributed rights to one designated copyright holder is a legal instrument that allows *projects* (!) to adjust their copyrights to future needs. Apart from the problem of migrating a project to another license, copyright assignment to one central actor makes possible the enforcement of copyrights in a collaborative work with multiple authors, and it also helps to register copyrights in jurisdictions where required.³⁹ In contrast to non-FSF proj-

ects where FSF functions as a simple license steward, in its own projects the FSF assumes the position of a license fiduciary.

- 33 In the same vein but in a more generic approach, the FSFE developed a Fiduciary License Agreement (FLA).⁴⁰ As the FLA is designed to cover multiple jurisdictions under a single agreement, it lays down that the developer grants an exclusive license on his work in countries where an assignment of copyright is not possible due to the *droit d'auteur* tradition. With this model agreement, developers of FOSS projects can assign their rights to any single person or organization as fiduciary that returns a broad nonexclusive license to the developer.⁴¹
- 34 Indeed, not just independent foundations but also major open source companies demand such assignments. Here the problem of copyright fragmentation in a distributed developer network is aggravated because exploitation of code by means of dual licensing requires bundling of copyrights in a single authority that can dispose of the program as a complex whole. The downside of such copyright assignment to a commercial entity is the introduction of an asymmetry in the relationship between the company holding the copyright and all other parties that conflicts with the credo of FOSS to guarantee equal participation among users.⁴²
- 35 How did these instruments for overcoming the collective action problems in multiauthor collaborations work in the case of Wikipedia's license migration?

III. Wikipedia: Amending public licenses in MMC networks

- 36 As already mentioned, changing the access rules for a collaborative work generally implies the permission of each and every single author. In this respect, instruments of collective decision-making such as a vote among contributors cannot have any legitimacy function.⁴³ Even if there had been a higher rate of participation in the vote on the transition, myriad Wikipedia authors did not explicitly approve the relicensing of their contribution under different conditions. Also, the Wikipedia authors did not assign their copyrights to WMF nor did they provide a broad exclusive license that would have allowed WMF to relicense all the articles. By submitting text directly to Wikipedia, the author grants a non-exclusive license for reuse to the public. Thus, WMF, like the rest of the world, only would have been able to exert the rights of a non-exclusive license, but these rights do not cover the right to republish the content under a different license. Generally, only the copyright holder is entitled to do so. In short, Wiki-

pedia's licensing policy did not apply an explicit fiduciary model.

1. License revision clauses

- 37 So the only way individual authorization may have been obtained is through the GFDL. This would require that FSF acted within the limits of both the "any later version" clause in § 10 GFDLv1.2 and national copyright law when it added the relicensing clause in § 11 GFDLv1.3 which conveys on the operator of an MMC site the right to republish GFDL content under a CC license as well. The assumption was twofold: first, that moving to version 1.3 of the license was allowed under the "or any later version" terms, and second that relicensing to CC-BY-SA was allowed by GFDL 1.3.
- 38 The centerpiece of this strategy is the "future revision" clause in § 10 that reserves FSF the right to publish new versions of the GFDL. A new release affects the legal position of a copyright holder because § 10(2) grants the user the option to follow the terms of either the new or the preceding license version – irrespective of whether open licenses are construed as contractual licenses (e.g., under German law) or as bare licenses (under U.S. law).⁴⁴ Thus, by submitting a text to Wikipedia, an author has agreed in advance to multi-license his work under the present and the subsequent versions of the GFDL. Although the relicensing constructively does not take place before the moment the user decides to use the work according to the new terms, it actually occurs at the time the FSF publishes a new license version. Although it seems quite unusual that the licensee is granted the right to change the conditions of the license based on the "proposal" of a third person (FSF), this is nothing unknown to the law⁴⁵ since – and to the extent that – the third person was authorized by the licensor to make binding decisions on the content of the new license.⁴⁶
- 39 With regard to the range of authorization, two aspects in § 11 GFDLv1.3 seem problematic: (1) FSF delegates its authority to make changes of the license terms effective to another entity. (2) By making content accessible under a CC license as well, the new license terms differ significantly from the GFDLv1.2; in fact, the very idea of the GFDL revision was to facilitate the migration to a *new type* of license.
- 40 First, for the sake of foreseeability, the license agreement generally has to fix a specific license steward whose identity is determined or is at least determinable. But as long as the FSF itself determines the details of relicensing – as was done in § 11 GFDLv1.3⁴⁷ – the sub-delegation of the right to put into force new license terms to MMC site operators appears just as a part of the implementation procedure.

41 The harder question is whether the changes in GFDLv1.3 are covered by the revision clause of § 10 GFDLv1.2 – ultimately, whether the CC-BY-SA 3.0 license qualifies as a “revised version” of the GFDL. § 10(1) GFDLv1.2 requires that new versions have to be “similar in spirit.” This abstract wording is boon and bane. On the one side it may be argued that inserting § 11 acted as a bridge of legitimation. For a significant group of GFDL licensors (i.e., the Wikipedia contributors), the irrevocable publishing of material under GFDLv1.2 no longer assured “effective freedom” in creatively using their documents (cf. the preamble of the GFDL) but amounted to a “license lock in” that had the potential of impeding productive use of the text. In this perspective, amending GFDLv1.2 by adding § 11 may indeed have saved the spirit of the former version. It restores effective freedom of use for the “locked” material by opening up the door to another open content license that also has a copyleft as its core characteristic (due to the “share alike” requirement). It is thereby ensured that any modifications also remain publicly usable. To any later actual re-licensing of GFDLed material (as carried out by the site operator) then applies a slightly different test as the “similar in spirit” clause in GFDLv1.3 would have to be construed in the light of § 11.

42 On the other hand, the broad and open wording is at odds with carefully drafting and interpreting limitations of scope in licenses that must be in line with copyright.⁴⁸ The licensor must be in the position to recognize in advance which future use his work will be subject to.⁴⁹ At issue here are the limits of prior consent. Where are the limits of valid authorization? The debate on GPLv3 showed quite plainly that even similarity of spirit in one and the same license family can be a matter in question. The less obvious point is that dual-licensing is in the “spirit” of the original GFDL where the license added is crafted by a completely different organization (CC). Which way out?

43 There seem to be two alternative legal constructions to overcome the uncertainty of individual authorization: first, an interpretation of license/contract that imposes elements of objective intention on the license (or contract); second, a collectivization of property rights that subjects the individual position to the authority of the group (such as in partnerships).

2. Objective interpretation of license

44 By submitting text to Wikipedia, authors agree not just to their text being licensed to the public under GFDL and/or CC license but also accept everything else in Wikipedia’s terms of use that are – unlike the policies and guidelines – not subject to modification by the community. These terms require an author to grant “broad permissions” to the general public when contributing to “Wikimedia projects,” the

common commitment of which is to promote the idea to “freely share in the sum of all knowledge.” Thereby the contributor should be aware of the fact that his work is part of and integrated into collaborative projects that are run by WMF (sic!) and that are set up to promote a specific goal (equal participation in knowledge society) with specific instruments (open access). This requires the author to acknowledge peculiar access rules that depart in some respects from the norms of copyright. In addition to explicitly accepting an open license model, for instance, each text is subject to editing without consent of the author.

45 Following the same rationale, interpretation of the terms of use may also presume *implied terms* that supplement the agreement in the interest of making the objective of the Wikipedia project effective. Thus, the fact that the terms of use did not explicitly provide for the possibility of linking Wikipedia contributions to free content outside Wikipedia is the very reason to fill in the gap. Relicensing in order to achieve license compatibility with other open content is essential for expanding access to free knowledge. So the legal requirements for valid prior consent have to be determined in light of the fact that the author knew at the time of submission that he placed his work in the context of a collaborative project with a peculiar objective having its own inner logic.

46 This approach gets support from a view that reconstructs franchising and just-in-time networks in legal terms as “connected contracts.” These business networks pursue common projects, making use of cooperation between autonomous firms. As was shown, specific network effects – that is, not when networking seeks to profit from simple scale or collectivization advantages, but rather when added value is sought by means of the facilitation of multilateral communicative connections between network members (information, cooperation, exchange) – can only be achieved when the stipulations of each bilateral contract are dedicated to the securing of desired network effects.⁵⁰ This results in a tangible reduction in private law autonomy within individual bilateral contracts. Various social coordination mechanisms of an extra-contractual nature (e.g., mutual observation, anticipatory adaptation, cooperation, trust, self-obligation, trustworthiness, negotiations, enduring relations) give form to the overall network order, leaving their indelible mark on each bilateral contractual relationship.⁵¹ Connecting contracts in networks means that autonomous bilateral legal relationships are superimposed by emergent spontaneous orders, the peculiarities of which the law protects through heteronomous obligations – ultimately to be spelled out by the judge when he has to interpret the contracts.⁵²

- 47 If the GFDL is classified as a contractual agreement between author and user (such as under German copyright law), these insights can be transferred to Wikipedia's license regime. The online encyclopedia then appears as based on myriad connected contracts, each providing access to specific but linked text fragments. In order to unleash and protect the synergies of cooperation among contributors, legal interpretation of the license terms may assume an obligation of the licensor to agree to a relicensing that achieves interoperability with other free content and thus promotes the semantic value of the article network. At least, the law could protect the network synergies by assuming that the licensor would act in breach of good faith when he refuses permission for relicensing.
- 48 Notwithstanding such legal strategies to justify a compelling relicensing, the idea might be contemplated whether it would have been preferable to include an "opt-out" provision in the relicensing clause of the new GFDL. Such an option was indeed applied in the case of relicensing images contained in Wikipedia.⁵³ Here, a license migration template system was created and embedded at the end of each GFDL tag so that all existing GFDL images could be sorted both by bots and by humans to filter the ones eligible for relicensing. Additionally, copyright holders were explicitly encouraged to dual license their content on their own initiative, either by adding a `{{cc-by-sa-3.0}}` tag to the image description and changing the GFDL tag to `{{gfdl|migration=redundant}}` or by replacing the existing GFDL tag with `{{gfdl|migration=relicense}}` which automatically appended a CC-BY-SA tag after the GFDL tag. Presumably, WMF chose this way because images are not collaborative content but distinct stand-alone works. They lack the peculiarities of continuous editing and successive "re-creation" by the community. For exactly these reasons the opt-out strategy could not be applied to the articles in Wikipedia. They are of a highly collaborative nature and are the products of emergent networking synergies in the strict sense. Even if the gaps caused by the exercise of opt-out rights could have been filled by other contributors in the course of time, an opt-out strategy would have been incompatible with any approach that focuses on the protection of the productivity of the network.
- ### 3. Collectivization of property rights
- 49 A second approach could question the premise of individual property rights in the text corpus of Wikipedia. At least each "article" could be viewed as a collaborative effort. This would not necessarily deny the existence of individual rights to a text fragment, and especially the moral rights of an author would remain unaffected. But it would assume second order "group rights" attached to the articles as instances of collective creativity. Such a construction would replicate at the level of the encyclopedia as a linked network of articles. The main idea of this approach, therefore, would be to fill in the governance gap of relicensing uncertainty in the network by simply substituting individual for collective authority.
- 50 As a starting point, it has to be noted that copyright law is ill-adjusted to cooperation among large groups of dispersed creators. This holds true for all national legal systems as they are historically organized around the idea of a single centralized creative entity (a single person or a single corporation). The phenomenon of multiple authors is only grasped through the idea of a joint plan: where the work cannot be attributed to a single person, the law makes recourse to a single plan. At the end, the law is unable to consider the idea of distributed knowledge. The difficulties of grasping Wikipedia's collaborative creativity under German copyright law are symptomatic. The main provision for cooperative creation is sec. 8 UrhG that requires creators to pursue a joint project leading to a coherent work. This does not preclude collaborations that are created successively. But in such cases, each participant has to contribute according to a shared master plan.⁵⁴ The individual contribution must be subject to some sort of collective intentionality. This usually results in a unitary product that can be exploited as a whole. If these conditions are met, then joint ownership among the authors comes into existence by operation of law. In consequence, the authority to dispose of the work is assigned to the collective of contributors.
- 51 But the logic of Wikipedia's evolution is different. In a distributed network, there is no master plan directing the individual actions. The bulk of copyrightable content in Wikipedia consists of many original article entries written by a single author according to his personal idea and innumerable derivative works of the original contributions. Wikipedians contribute their pieces voluntarily, whenever and to whatever they personally deem appropriate. Even by considering that the legal prerequisites for joint ownership in copyright are less demanding than the criteria for regular joint ownership based on private partnership under the German Civil Code (where the partners must incur legal obligations to promote the shared objective), Wikipedia authors hardly qualify for joint ownership in the sense of sec. 8 UrhG without overstretching the idea of collective intentionality.
- 52 And even if they did qualify, what would be the consequence with regard to the problem of decision authority? The governance regime of joint ownership in copyright is very rigid. The decision to publish the collaborative work under a new license would require permission of all of the co-creators. In order to avoid this cumbersome and costly procedure, collaborators quite often set up a private partnership

and stipulate that a majority decision is sufficient.⁵⁵ Such contractually implemented governance procedures – that would be applicable to a relicensing decision – are absent in the case of Wikipedia. Here, unanimity would be required. So the idea to fill in the governance gap in MMC networks by having a look at statutory provisions for joint ownership does not solve the problem. The default rules for joint ownership in copyright law – even if applicable – redirect to the default rules for general partnerships in private law. A fruitful application of the legal notion of partnership would require an explicit multilateral contracting for majority rules. But this just did not happen in the case of Wikipedia.

- 53 Interestingly, if we stay with the default rules for copyright collaboration and partnership, we are referred back to a well-known principle: according to sec. 8(2) UrhG, a co-author may not refuse his permission for republishing the work contrary to good faith. The reasons to assume a breach of good faith will be pretty much the same as in contract law: the decision to withhold relicense permission amounts to a frustration of the project's objective.
- 54 Finally, qualification of Wikipedia articles as “linked works” in the sense of sec. 8 UrhG also hardly seems possible. It is not only arguable whether the contributions could be exploited separately as required by this provision. First of all, a legally relevant linking only becomes effective when the contributors conclude a partnership in the sense of sec. 705 German Civil Code. Again, the copyright provision requires a preceding act of collectivization that cannot be assumed in the case of Wikipedia authors.
- 55 Dismissal of all possibilities to deduce a group right from copyright law does not mean that there is no legally relevant proximity between the right holders in Wikipedia articles. An example in which a legal system assumes obligations between independent holders of property rights is the German law on condominium, i.e., on separate ownership of individual apartments in a multiple-unit building. According to the German Federal Supreme Court, the legal relationship among the owners is to be qualified as a community *sui generis*.⁵⁶ The provisions in the German Condominium Act spell out the legal consequences of such a special relationship and impose obligations on the personal property of each homeowner with the aim to guarantee an orderly cohabitation of the multitude of owners in one and the same building and to preserve the necessary common facilities (esp. sec. 13-15 GCA). In contrast to copyright law, the collective binding of individual property rights under condominium law does not build on any collective intention of owners to pursue a shared plan, nor does it require a preceding agreement to exploit their rights collectively; the multitude of owners are regarded as a community simply by operation of law in order to facilitate inner affairs

of a group in which the individual member is *actually* dependent upon the rest and vice versa (e.g., for domestic peace). In the first instance, the obligations stated are not about taking into account the legally protected interest of other individuals, but to protect the integrity of one and the same space of interaction that is inhabited by all of the owners. Similarly, the authors of Wikipedia “inhabit” a common space of shared knowledge. Legal recognition of the “connectedness” of contributions then also would take place by assuming a special relationship (“*rechtliche Sonderverbindung*”) that imposes restrictions on the individual right holders in order to protect and even to promote the integrity of the emergent network products. Obviously, this comparative reconstruction of Wikipedia resembles much more the individualistic baseline known from the approach mentioned of seeing networks as connected contracts. Instead of drawing on any initial form of collectivization, it rather starts from the individual positions and then tries to legally recognize the emergence of the network by making recourse to the idea of sources for obligations whose legal nature is somewhere in between contract and tort.

- 56 In conclusion, at least in their present form, individual as well as collective legal concepts have difficulties grasping the special needs of open MMC projects to review their license regimes. Therefore, the network type of cooperation must receive adequate legal recognition. Anyway, it is worth noting that under both approaches a similar rationale seems to decide on the legitimacy of a relicensing.

D. Legal governance of MMC networks

- 57 In order to find the basic elements a governance regime for MMC networks such as Wikipedia should consist of, two aspects have to be combined: one is about a representative for the network's access rules, the other is about the principles this representative shall observe.
- 58 The main difference between a contractual and a group-right model pertains to the structure of decision-making. The authority to dispose of the access rules for the use of content relocates from the individual to the community. But to make collectivization operable, some form of representation of the group is necessary (even a majority rule is a form of representing the decision of “the group”). The problem of individual authorization then shifts to the issue of representation. As some propose, “rough and ready representation”⁵⁷ may be sufficient in a highly dispersed group of creators. So if the Wikipedia network of articles is reconstructed as consisting of group rights, the vote conducted on the relicensing question may have provided the required “rough

and ready” consensus of the group. WMF then just acted as a manager for the vast group of Wikipedia authors who were represented by those users participating in the vote.⁵⁸

- 59 If we come around the other way, from the individual perspective, we touch on the limits of prior consent. The problem here consists in the actualization of will against changed conditions. Again, the issue appears as one of representation. Does the shift to a dual licensing represent the “old will” of the licensor? The discussion of license and contract law demonstrated that any intent of the individual licensor has to give way to substantial objectivization, either in the form of extensive interpretation of the license, the assumption of implied terms, or heteronomous networking obligations. In fact, the only way for the individual to influence the modification of the license conditions substantively – in the sense of Hirschman’s “voice” – is to exert influence on the license steward who is exclusively authorized to change the *standard* terms. Standardization is exactly the price to be paid by an alternative to copyright that is itself based on property rights.⁵⁹ In the words of economic thought, the sovereignty of owners is traded for the reduction of transaction costs.
- 60 Indeed, both veins of analysis lead to the idea of a representative who takes care of the project’s access rules. At first glance, it may be intuitive to vest this responsibility in the group of contributors. However, the model of collective decision-making seems less convincing when the group of right holders is highly fluctuating and standards for a “rough and ready representation” seem difficult to determine if not arbitrary. Authors whose rights are affected may have contributed just once and a long time ago so that overall participation in a vote is likely to be very low. Most importantly, the copyright a contributor does acquire is not for private exploitation. From the outset, an MMC author’s copyright in a derivative work is “levied” through the copyleft for the sake of public use and common knowledge. The (public) license the copyright is subject to does not seek to protect individual profit originating from direct reciprocity but rather a kind of “diffuse reciprocity”⁶⁰ that can be regarded as characteristic for interaction in networks. This public dimension of the rights involved can be better accommodated by the bilateral approach because it counsels for a triangulation of the issue of representation. Considering that the terms of the license constitute the commons nature of the published work focus shifts automatically to the steward of the license model applied. He could be directly bound to serve the interest of the commons, much the same as managers are legally committed to act in the interest of the company that can be distinguished from and is emergent to the interests of individual shareholders. Even where no formal fiduciary agreement exists (such as in the non-FSF projects) the simple li-
- cense steward may be under a fiduciary duty. The true principal of this fiduciary relation would be the commons itself. In the case of GFDL, this approach even gets some support from the wording of the license text in which the FSF commits itself to issue only new versions that are “similar in spirit”, focusing the required loyalty to the idea of effective freedom to use the published work.
- 61 The license steward’s subjection to obligations may be justified by considering that hosting a public license is a public function. After the author has published his work irrevocably under the terms of a public license, the issuer of the license terms is the only one who is both legally entitled and in the factual position to change the license conditions. The license steward is the only authority who has access to the perpetual publicness of the license. He can dispose of the freedoms the contributors contracted for in the project. Having the authority to change the license means being able to govern the structure of interaction among the project’s participants. Absence of temporal limitations in private acts is hardly known in private law (except for the law of foundations). Private law usually presupposes limited periods of validity of contracts or of the bindingness of public offers. The problems arising from public licensing are grounded in the enterprise of re-constructing a *public* domain with the help of *private* law forms. It is crucial for the law to recognize this and to responsibly handle the public function of the license used.
- 62 In private law, the problems de facto standards raise may come closest to the challenges of public license models. Under certain conditions, competition law will apply the essential facilities doctrine with respect to the relevant product market, the access to which is controlled by the holder of the de facto standard. Competition law then may constrain the freedom of the right holder to refuse access and may even impose positive obligations to cooperate on him which normally would require a contract. Similarly, even though contractual relations between the simple license steward and the project participants are missing, the license steward may be subject to duties that arise from his actual power to influence the behavior of the users. It becomes manifest that issuing a public license is equivalent to standard setting. Maintaining a public license (which constitutes a public good) is a public function. As indicated, this public function should be acknowledged through a fiduciary relation the license steward is subject to.
- 63 In such a fiduciary model attention of the law consequently should shift to the question what loyalty to the “interest of the commons” requires. First, it seems reasonable to call for a good “corporate governance” of the license steward. Entities acting as a license steward should provide strong and stable governance structures that include the major players and that avoid the possibility of disruptive

change.⁶¹ From this perspective, independent foundations seem preferable. Other than commercial entities that act as license stewards (such as the major open source companies), foundations would have no incentive to implement an asymmetric licensing model if copyright were assigned to them; they would not be tempted to use their position as the formal holder of copyright and market the software under a non-free license in order to achieve competitive advantages. The problems can be found elsewhere: sustainable funding will be crucial to preserve the foundation's independence. Also the governance structures of such a foundation have to be absolutely transparent and permeable for critique. Due to the public function of a license steward, it might be useful to define the criteria an entity must meet in order to act as a license steward. A similar model already exists in the field of consumer protection law where directive 98/27/EC on injunctions for the protection of consumers' interests defines a "qualified entity" that may bring actions for an injunction against infringements harmful to the collective interests of consumers. In summary, the problem of network governance partially transforms into the question of good organizational governance of the public license steward.

64 Another main part of network governance in this sense is the compliance of the license steward with the rules of private law. When drafting the license text, the license steward must carefully consider general principles such as transparency and certainty. In addition, the license steward shall be guided by those rules that apply to the relations between the users of the license. For instance, the FSF may indeed implement changes whose refusal by a licensor would appear against good faith. This focus on the legal relations of those whose rights are affected by the public license – the decentralized network relations – seems essential to the public function of the license steward. Through § 10 GFDL, the usage conditions for the work of the author are subjected to a dynamic reference to the current version of the license. If the license steward exceeds his power to release new versions because those versions are not "similar in spirit," the new license version is not authorized by the right holder and does not apply to the use of his work. In consequence, the user does not have permission to use the work according to the new conditions. Litigation on this conflict would take place between the licensor and the user. For example, the right holder would bring action of copyright infringement against the user, arguing that the work was used in a way not covered by GFDLv1.2 but only by CC-BY-SA 3.0. The user, in contrast, would claim to be authorized by the new GFDLv1.3 as published by the license steward. If the user is defeated, the license steward is discredited. Even though he cannot be forced to exercise his dynamic power to change the license terms in a specific way, he would nevertheless run afoul of his pub-

lic self-commitment to stay within the limits of § 10 GFDL. Yet it is up to the licensor and user to litigate on the exact limits of the revision clause.

65 In conclusion, legal governance of MMC networks is a complex task. Governance of decentralized networks translates into a composite of organizational and contractual elements. The entity of the license steward represents a new actor at the transnational level that needs to be bound to principles of good organizational governance. However, the substantial standards that guide the exercise of his public function to shepherd the public license issued are to be taken from private law. Here the principles of transnational private law deserve special attention. Legal governance of MMC networks meets the idea of transnational private law – which in turn should open up to the peculiarities of social interaction in networks. The production of global knowledge commons is in need of a transnational law for networks.

* For instructive discussion I would like to thank Michael Grünberger, Klaas Eller, and Jürgen Fenn.

1 The Theory of Economic Development, 1934, p. 65.

2 These technologies include powerful personal computers, standard design languages, representations, and tools; the digitization of design information; modular design architectures; and low-cost any-to-any and any-to-all communication via the Internet. Cf. *Baldwin & v. Hippel*, Modeling a Paradigm Shift, MIT Sloan School Working Paper, p. 23 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1502864).

3 This also calls for an *adjustment of government policies* as open collaborative innovation is social welfare-enhancing relative to closed producer innovation. Policymakers should encourage the new models – by providing a sound legal environment for them!

4 *Hetcher*, Hume's Penguin, or, Yochai Benkler & the Nature of Peer Production, *Vanderbilt Journal of Entertainment and Technology Law* 11 (2009), 963 (973), available at <http://law.vanderbilt.edu/publications/journal-entertainment-technology-law/archive/download.aspx?id=4166>; *Lessig*, *Remix*, 2008, p. 178.

5 *Baldwin & v. Hippel*, Modeling a Paradigm Shift, MIT Sloan School Working Paper, p. 16 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1502864).

6 Similarly, a "third way" has to be considered in order to adjust the traditional concept of property to accommodate distributed creativity. Cf. *Merges*, Locke for the Masses: Property Rights and the Products of Collective Creativity, 36 *Hofstra Law Review* 1179, 1190 et seq. (2008), available at http://law.hofstra.edu/pdf/Academics/Journals/LawReview/Lrv_issues_v36n04_BB1-Merges.pdf ("What we are after is *something between* the complete absence of an affirmative right, ... and a full-bodied, full-fledged IP right. Something like exclusive (or semi-exclusive) rights to be held by groups who exert collective labor...") [emphasis added].

7 Cf. for example *McGowan*, Legal Implications of Open-Source Software, *University of Illinois Law Review* 241, 253 (2001), available at <http://local.law.umn.edu/uploads/images/254/McGowanD-OpenSourceFinal.pdf>.

8 See *infra* III.

9 Cf. *Elkin-Koren*, What Contracts Can't Do: The Limits of Private Ordering in Facilitating a Creative Commons, 74 *Fordham Law*

- Review 375, 378 (2005), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=760906.
- 10 Cf. *Lessig*, Re-Crafting a Public Domain, 18 Yale Journal of Law & the Humanities 56, 83 (2006).
 - 11 Thus the social structure of OSS projects only appears as a „neither-nor“ when compared with the characteristics of the market and the firm. When qualified as an institution of its own the two-sided deficit turns into an „either-or“!
 - 12 Cf. *Teubner*, Networks as Connected Contracts, 2008, p. 64 (available at <http://ssrn.com/abstract=1233545>).
 - 13 Cf. *Wielsch*, Zugangsregeln, 2008, pp. 211 et seq.
 - 14 Cf. *Alchian*, Some Economics of Property Rights, *Il Politico*, 30 (1965), 816 (818).
 - 15 To be precise: in very big firms. Cf. *Moglen*, Synergy 5 (2006), 10 („If the GNU GPL were a firm, it would be the single largest software development firm in the world, far larger than Microsoft.“, available at <http://ec.europa.eu/idabc/servlets/Doc?id=23833>).
 - 16 Cf. *Benkler*, There Is No Spoon, in *The State of Play: Law, Games, and Virtual Worlds* (Jack M. Balkin & Beth Simone Noveck eds., 2006), p. 247.
 - 17 Cf. *Hetcher*, Hume’s Penguin, or, Yochai Benkler & the Nature of Peer Production, 11 *Vanderbilt Journal of Entertainment and Technology Law* 963, 972 (2009), available at <http://law.vanderbilt.edu/publications/journal-entertainment-technology-law/archive/download.aspx?id=4166>, drawing on *Noveck*, Democracy – The Video Game, in *The State of Play: Law, Games, and Virtual Worlds* (Jack M. Balkin & Beth Simone Noveck eds., 2006) p. 258 (“There is no account at all in the legal literature about the relationship between technology and collective action.”)
 - 18 See http://en.wikipedia.org/wiki/Five_pillars_of_Wikipedia (“Wikipedia is an encyclopedia,” “Wikipedia has a neutral point of view,” “Wikipedia is free content,” “Wikipedians should interact in a respectful and civic manner,” “Wikipedia does not have firm rules”).
 - 19 *Benkler*, as cited in *Hoffman/Mehra*, Wikitruth Through Wikiorder, 59 *Emory L.J.* 151, 161 (2009), also with reference to the critics.
 - 20 Wikipedia: Simplified Ruleset (“There is no strict set of rules. Instead there is a set of policies and guidelines, the latter of which you can choose to follow. You might see people do things that are plainly not in accordance with these guidelines, but which may still be well within the actual Wikipedia policies.”)
 - 21 Available at <http://en.wikipedia.org/wiki/Wikipedia:Arbitration/Index/Principles>.
 - 22 The de facto and de jure policies were not in agreement. Cf. http://commons.wikimedia.org/wiki/Commons:When_to_use_the_PD-Art_tag/Straw_Poll.
 - 23 Cf. *Hoffman/Mehra*, Wikitruth Through Wikiorder, 59 *Emory L.J.* 151, 194 (2009) citing a critic that complains “Wikipedia seems only to enforce policies about conduct; policies about content are not enforced.”
 - 24 *Hoffman/Mehra*, Wikitruth Through Wikiorder, 59 *Emory L.J.* 151, 191 (2009).
 - 25 See *Hart*, *The Concept of Law*, 2nd ed., 1997, at 81 (“Under rules of ... the basic primary type, human beings are required to do or abstain from certain actions, whether they wish to or not. Rules of the other type are in a sense parasitic upon or secondary to the first; for they provide that human beings may by doing or saying certain things introduce new rules of the primary type, extinguish or modify old ones, or in various ways determine their incidence or control their operations.”)
 - 26 Cf. *Lessig*, Re-Crafting a Public Domain, 18 Yale Journal of Law & the Humanities 56, 77 (2006).
 - 27 See <http://www.gnu.org/licenses/fdl-1.3-standalone.html>.
 - 28 Erik Moeller, Deputy Director, Wikimedia Foundation at the foundation-l mailing list, available at <http://lists.wikimedia.org/pipermail/foundation-l/2008-November/046996.html> (emphasis added).
 - 29 <http://www.gnu.org/licenses/fdl-1.3-faq.html>.
 - 30 Erik Moeller, Deputy Director, Wikimedia Foundation at the foundation-l mailing list (emphasis added).
 - 31 Wikimedia representatives always use the expression “support” instead of “legitimation,” which seems more adequate!
 - 32 Erik Moeller, Deputy Director, Wikimedia Foundation at the foundation-l mailing list.
 - 33 <http://meta.wikimedia.org> [Licensing update/Implementation] or http://wikimediafoundation.org/wiki/Resolution:Licensing_update_approval.
 - 34 Under German law it is not easy to explain why the GPL qualifies as a mutual contract. Under U.S. law the problem appears in a different form but is substantially the same (“consideration”).
 - 35 *Benkler*, Coase’s Penguin, or Linux and the Nature of the Firm, 112 *Yale Law Journal* 369, 405 fn. 76 (2001) defines “indirect appropriation” as appropriation of the value of one’s effort by means other than reliance on the excludability of the product of the effort.
 - 36 Cf. *Hetcher*, Hume’s Penguin, or, Yochai Benkler & the Nature of Peer Production, 11 *Vanderbilt Journal of Entertainment and Technology Law* 963, 983 et seq. (2009), available at <http://law.vanderbilt.edu/publications/journal-entertainment-technology-law/archive/download.aspx?id=4166> (arguing that collective-action problems are not synonymous with the tragedy of the commons and should not be framed within the limits of an iterated prisoner’s dilemma).
 - 37 *Ladeur*, Kritik der Abwägung in der Grundrechtsdogmatik, 2004, p. 13.
 - 38 <http://germany.fsfe.org/projects/gplv3/europe-gplv3-conference.de.html>; <http://www.eolevent.eu/?q=fr/speeches2009>.
 - 39 Explicitly mentioned by the FSF in its FAQ.
 - 40 An overview of version 1.2 from 2007 is provided by *van den Brande*, The Fiduciary Licence Agreement: Appointing legal guardians for Free Software Projects, *International Free and Open Source Software Law Review* 1 (2009), 9, available at <http://www.ifosslr.org/ifosslr/article/view/6/5>.
 - 41 A kind of reverse public licensing!
 - 42 Cf. *Moody*, Coming up with a Copyright Assignment Strategy (<http://www.computerworlduk.com/community/blogs/index.cfm?entryid=2708&blogid=14>); *Meeks*, Some Thoughts on Copyright Assignment (<http://people.gnome.org/~michael/blog/copyright-assignment.html>).
 - 43 For a different conception, see *infra* IV.
 - 44 These constructive differences result from broader differences of the national legal systems. Anyway, both constructions do provide for effective enforcement of open licenses. See *Jaeger*, Enforcement of the GNU GPL in Germany and Europe, 1 (2010) *JIPITEC* 34, para. 20.
 - 45 In German contract law, § 317 I BGB is designed for a similar situation.
 - 46 Cf. *Kreutzer*, in: *ifross GPL*, § 9 notes 22 and 23.
 - 47 Arguably, GFDL 1.3 sec 11 does not specify which SA license operators of MMC sites can use for relicensing. From the perspective of definiteness this may seem problematic. In fact, Wikimedia chose the “unported” license.
 - 48 For a recent example regarding public OSS licenses, see *Jacobsen v. Katzer*, 535 F.3d 1373, 1381 (Fed Cir. 2008) emphasize-

ing the need for a careful interpretation in line with copyright principles.

- 49 For a critique of the broadness of § 10 GFDL, see *Hietanen*, *Wikimedia Licensing Policy Change – A Conundrum* (http://www.wipo.int/wipo_magazine/en/2009/06/article_0004.html).
- 50 Cf. *Teubner*, *Networks as Connected Contracts*, pp. 74 et seq.
- 51 Cf. *Teubner*, *Networks as Connected Contracts*, p. 88 (“Internal network decision-making is simultaneously subordinated to the contradictory demands of bilateral exchange and multilateral connectivity”).
- 52 As to franchise systems, a case study would be: German Federal Court of Justice (BGH), NJW-RR 2003, 1635, 1637 (“Apollo Optik”) as summarized in *Teubner*, *Networks as Connected Contracts*, p. 86. The Court found a franchiser to be under an obligation to pass on networking advantages such as purchasing advantages to the franchisees.
- 53 http://en.wikipedia.org/wiki/Wikipedia:Image_license_migration.
- 54 Cf. German Federal Court of Justice, GRUR 2005, 860 (862) „Fash“.
- 55 The same strategy is often chosen by a collaboration of multiple performing artists who try to avoid the unanimity required by sec. 80(1) UrhG.
- 56 German Federal Supreme Court, BGHZ 163, 154 (172)
- 57 *Merges*, *Locke for the Masses: Property Rights and the Products of Collective Creativity*, 36 *Hofstra Law Review* 1179, 1190 (2008), available at http://law.hofstra.edu/pdf/Academics/Journals/LawReview/lrv_issues_v36n04_BB1-Merges.pdf.
- 58 The minimum of 25 edits required by an author to participate in the vote corresponds to *Merges*’ suggestion to limit representation to “the most active contributors.”
- 59 Cf. *Elkin-Koren*, *What Contracts Can’t Do: The Limits of Private Ordering in Facilitating a Creative Commons*, 74 *Fordham Law Review* 375, 378 (2005), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=760906.
- 60 Cf. *Weber*, *The Success of Open Source*, 2004, p. 150
- 61 Cf. *Moody*, *Coming up with a Copyright Assignment Strategy* (<http://www.computerworlduk.com/community/blogs/index.cfm?entryid=2708&blogid=14>).