THE NON-DISCRIMINATION PRINCIPLE IN OPEN SOURCE LICENSING

Eli Greenbaum†

Open source communities have required licenses to satisfy requirements of non-discrimination. This principle of non-discrimination, however, has remained peripheral to the interpretation of open source licenses, with legal analysis concentrating on other aspects of open source regimes. This Article argues that non-discrimination, far from being marginal to open source, constitutes the central legal characteristic of the licensing model, and that an appreciation of the non-discrimination requirement is essential for understanding the economic incentives and effects of the open source license. This Article applies this understanding of the non-discrimination principle to interpret specific terms in free and open source licenses. In a number of instances, the interpretation consistent with the non-discrimination principle stands in contrast to generally accepted understandings of specific license provisions.

TABLE OF CONTENTS

† Partner, Yigal Arnon & Co., Israel. J.D., Yale Law School; M.S., Columbia University.

INTRODUCTION

"The Software shall be used for Good, not Evil" was a noble—though unsuccessful—attempt at composing an open source license.[1] The irreverent JSON license quickly became a source of confusion for corporate lawyers. Some companies felt the need to receive permission to use the software for potentially "evil" purposes.[2] Prominent open source organizations refused to distribute software provided under this license.[3] Google, despite its own corporate motto of "Don't be Evil," declined to host software covered by the "no-evil" terms.[4] Unfortunately, the "no-evil" license clause falls afoul of one of the fundamental principles of open source software: the requirement that free and open source licenses not discriminate between potential users or uses of the software.[5] According to this principle, open source software must be available to use for any purpose, without restriction. The JSON license, in expressly prohibiting certain (if vaguely defined) uses, did not comply.

This insistence on non-discrimination features prominently in the Open Source Definition,[6] a well-accepted description of what constitutes an open source license.[7] Indeed, no fewer than half of the clauses of the Definition are related to this requirement of non-discrimination.[8] These include provisions that preclude open licenses from expressly discriminating against specified groups, uses, or products, as well as provisions that make de facto discrimination against

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1 *The JSON License*, JSON, http://www.json.org/license.html (last visited Mar. 12, 2016). The JSON license was originally used for software supporting the popular JSON data format. *See* DOUGLAS CROCKFORD, JAVASCRIPT: THE GOOD PARTS 3 (2008). Both JSON and the no-evil clause were created by Douglas Crockford. *See id.*

2 *See Douglas Crockford: The JSON Saga*, YOUTUBE (Aug. 28, 2011), https://www.youtube.com/watch?v=-C-JoyNuQJs&feature=player_detailpage#t=2480s (showing Douglas Crockford discussing requests from companies for a special license to allow "evil" use of his software).

3 *JSON Non Free License*, DEBIAN, https://wiki.debian.org/qa.debian.org/jsonevil (last updated Sept. 28, 2015, 8:05 PM) (linking to open source organizations that consider the JSON license "non-free").

4 Stephen Shankland, *'Don't-Be-Evil' Google Spurns No-Evil Software*, CNET (Dec. 28, 2009, 11:14 AM), http://www.cnet.com/news/dont-be-evil-google-spurns-no-evil-software.

5 *See* discussion *infra* Section I.A.

6 *See The Open Source Definition (Annotated)*, OPEN SOURCE INITIATIVE, http://opensource.org/osd-annotated (last visited Oct. 30, 2015).

7 *See* OFFICE OF MGMT. & BUDGET, WHITE HOUSE, FEDERAL SOURCE CODE POLICY—ACHIEVING EFFICIENCY, TRANSPARENCY, AND INNOVATION THROUGH REUSABLE AND OPEN SOURCE SOFTWARE 6 n.23 (2016) [hereinafter FEDERAL SOURCE CODE POLICY], https://sourcecode.cio.gov/SourceCodePolicy.pdf (noting that the Open Source Definition is "the most widely-recognized definition of" what constitutes open source software, "both in the U.S. and internationally").

8 *The Open Source Definition (Annotated)*, §§ 5–10.

individual licensees a practical impossibility.[9] Similar demands for non-discrimination have been incorporated into other "open" frameworks, including definitions of open hardware,[10] open data,[11] and open standards.[12]

Despite the recurring insistence on license terms that do not discriminate, the non-discrimination requirement has typically been peripheral to the legal interpretation of open source licenses. Non-discrimination has generally been understood as a political or social principle that defines the boundaries of the open source community.[13] The requirement demands the inclusion of participants that might otherwise be excluded or that might exclude themselves from the community. This "social" understanding evokes a position similar to modern constitutional jurisprudence of equal protection,[14] in which the courts prevent discrimination against "discrete" groups[15] and scrutinize distinctions based on "suspect" classes or characteristics.[16] Just as the

9 *Id.*

10 *See Definition (English)*, OPEN SOURCE HARDWARE ASS'N, http://www.oshwa.org/definition (last visited Oct. 27, 2015) (defining "open source hardware"). The principle of non-discrimination as applied to open hardware has not been uncontroversial. *See* John R. Ackermann, *Toward Open Source Hardware*, 34 U. DAYTON L. REV. 183, 210 (2009).

11 *See Open Definition 2.0*, OPEN DEFINITION, http://opendefinition.org/od/2.0/en (last visited Oct. 27, 2015) (setting out principles that define "openness" as it relates to data and content).

12 *See Open Standards*, FREE SOFTWARE FOUND. EUR., http://fsfe.org/activities/os/def.en.html (last visited Oct. 27, 2015) (stating, inter alia, that open standards must be "free from legal or technical clauses that limit its utilisation by any party or in any business model").

13 *See* E. GABRIELLA COLEMAN, CODING FREEDOM: THE ETHICS AND AESTHETICS OF HACKING 187 (2012) (describing how norms of non-discrimination are part of the "political agnosticism" of free and open source projects); ANDREW M. ST. LAURENT, UNDERSTANDING OPEN SOURCE & FREE SOFTWARE LICENSING 10 (2004) (describing the nondiscrimination requirement as directed against restrictions that are moral or political since such limitations "restrict[] the number of potential contributors" in the open source community); STEVEN WEBER, THE SUCCESS OF OPEN SOURCE 116 (2004) (stating that the significance of the non-discrimination requirement is that the open source community "will not define itself by [specific] values or place restrictions on its activities and products in the interest of promoting a set of values"); Jason Schultz & Jennifer M. Urban, *Protecting Open Innovation: The Defensive Patent License as a New Approach to Patent Threats, Transaction Costs, and Tactical Disarmament*, 26 HARV. J.L. & TECH. 1, 23 (2012) (stating that the non-discrimination requirement "allows every member . . . to read, understand, and evaluate the legal instruments," and thereby encourages "participation in the community" and "facilitates trust and accountability"); *The Open Source Definition (Annotated)*, *supra* note 6, § 5 (asserting that the non-discrimination requirement ensures that "the maximum diversity of persons and groups should be equally eligible to contribute to open sources"); *id.* § 6 ("We want commercial users to join our community, not feel excluded from it.").

14 *See* LAWRENCE E. ROSEN, OPEN SOURCE LICENSING: SOFTWARE FREEDOM AND INTELLECTUAL PROPERTY LAW 7 (2005) (comparing the open source non-discrimination principle to discrimination on the "basis of race, age, religion, national origin, sex . . . and other personal characteristics").

15 *See* United States v. Carolene Prods. Co., 304 U.S. 144, 152 n.4 (1938).

16 *See* Plyler v. Doe, 457 U.S. 202, 215–21 (1982).

state cannot discriminate on the basis of race, a license cannot exclude categories of users or uses from a creative community.[17] This interpretation undoubtedly endows the open source non-discrimination requirement with moral force but, not being unique to the open source community, it leaves the principle tangential to the core philosophy of the licensing model.[18] Given this interpretation, the non-discrimination principle has played only a limited role in the legal analysis of licenses, and has been applied only to reject licenses that explicitly exclude certain groups from using the software (e.g., the military) or that expressly prohibit use of the software for specific purposes (e.g., evil, genetic research, etc.).[19]

But non-discrimination can be a legal and economic strategy as well as a moral position, and the "social" interpretation of the non-discrimination requirement misses the full significance and impact of the principle. Our legal system generally proscribes discrimination based on immutable individual characteristics, but it can tolerate and even encourage some economic discrimination. For example, firms are usually free to refuse to deal with their competitors.[20] Courts sustain legal models that allow price discrimination, noting the economic benefits of the practice.[21] Property owners may generally exclude third parties from their land.[22] The open source non-discrimination requirement upends these standard practices by demanding that a licensor decline its ordinary right to choose its commercial partners. In committing to provide intellectual property rights under non-discriminatory terms, the open source licensor renounces one of its most important legal prerogatives. Far from peripheral to open source licensing analysis, the non-discrimination requirement should be understood as the central legal characteristic of the licensing model.

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17 A number of scholars have grounded constitutional non-discrimination law in the values of equal participation in a political community. *See, e.g.*, KENNETH L. KARST, BELONGING TO AMERICA: EQUAL CITIZENSHIP AND THE CONSTITUTION 3 (1989) (arguing that discrimination violates the principle of "equal citizenship" that "[e]ach individual is presumptively entitled to be treated by the organized society as a respected, responsible, and participating member").

18 ROSEN, *supra* note 14, at 7 ("While most in the open source community agree that non-discrimination is a commendable goal in the abstract, the community has been unable to agree about what constitutes discrimination.").

19 *See, e.g.*, JOSH LERNER & MARK SCHANKERMAN, THE COMINGLED CODE: OPEN SOURCE AND ECONOMIC DEVELOPMENT 195 (2010) (discussing the reaction of members of the free and open source software community to the inability to discriminate against military use); *The Debian Free Software Guidelines (DFSG)*, § 6, DEBIAN, https://www.debian.org/social_contract#guidelines (last updated Dec. 31, 2015) (using a proscription against the use of the software in genetic research as an example of prohibited discrimination).

20 *See, e.g.*, Goldwasser v. Ameritech Corp., 222 F.3d 390 (7th Cir. 2000).

21 *See, e.g.*, ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996).

22 *See, e.g.*, Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979) (stating that "the right to exclude others" is "one of the most essential sticks in the bundle of rights that are commonly characterized as property").

Non-discrimination is also the characteristic that has made open source popular. Open source has grown far beyond the early small communities of hackers, and commercial firms have taken a more active role in producing and distributing software under open licenses.[23] Linux, the poster child of open source community development, has grown from a loose collection of individuals to a significant commercial collaboration, where corporate donations of software code constitute a large majority of contributions to the project.[24] As discussed in more detail in Part II, this enthusiastic corporate embrace of open source has occurred in part because the licensing model is grounded in norms of non-discrimination, a principle fundamentally inconsistent with the ordinary commercial rights of the community participants.[25] Understanding the non-discrimination commitment both illuminates the commercial incentives for adopting an open licensing framework and sheds light on the suitable interpretation of that framework for giving effect to the parties' intentions.

This Article situates the open source non-discrimination requirement in the larger context of similar "open" regimes. Economic non-discrimination commitments are not exclusive to open source. For example, common carriers, such as railroads and telecommunications providers, have long been subject to a duty to provide service on reasonable and non-discriminatory terms.[26] Closer to open source, participants in standards organizations often commit to license patented technology on "fair, reasonable and non-discriminatory" (FRAND) terms.[27] Ongoing debates over the scope of non-discrimination commitments in these areas have highlighted the significance of the principle for those frameworks.[28] Understanding both the rationale and application of other open access commitments can provide insight into the open source non-discrimination requirement, the commercial motivations for making the open source commitment, and how the

23 LERNER & SCHANKERMAN, *supra* note 19, at 48, 90.

24 Jonathan M. Barnett, *The Host's Dilemma: Strategic Forfeiture in Platform Markets for Informational Goods*, 124 HARV. L. REV. 1861, 1907–10 (2011) (showing corporate contributions to Linux from January 2008 to June 2009, and describing the importance of these contributions).

25 *See infra* notes 159–63 and accompanying text.

26 *See infra* notes 139–48 and accompanying text.

27 *See infra* notes 128–34 and accompanying text.

28 For example, in the field of telecommunications, courts and administrative agencies have recently considered whether internet broadband providers should be subject to non-discrimination obligations. *See, e.g.*, Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014) (vacating portions of the 2010 Open Internet Order of the Federal Communications Commission on the grounds that the non-discrimination requirements of the Order imposed common carrier obligations). For recent debates concerning the scope and impact of non-discrimination requirements in FRAND obligations, see *infra* notes 128–34 and accompanying text.

non-discrimination principle should impact the interpretation of specific license provisions.

Part I of this Article begins by providing a history of the understanding and (hereto limited) application of the non-discrimination requirement in the open source context. Part II juxtaposes the open source non-discrimination requirement with parallel obligations in comparable regimes, demonstrating how other open access and non-discrimination rules can clarify the incentives and obligations of the open source licensor. Part III applies this broader understanding of the open source non-discrimination requirement to interpret specific clauses in open source licenses. In a number of instances, the interpretation consistent with the non-discrimination principle stands in contrast to generally accepted understandings of particular license provisions. Part IV concludes by demonstrating how the understandings advanced by the non-discrimination principle are introduced by the structure of the open source license itself. This analysis shows how non-discrimination, far from being marginal to open source, forms part of the fundamental architecture of the licenses.

I. DEBIAN AND THE DEFINITIONS

A. *History of the Non-Discrimination Principle*

Non-discrimination makes its first open source appearance in "The Debian Free Software Guidelines,"[29] which was ratified by an association of individuals called the Debian Project—a free software project founded in 1993.[30] The Debian Project distributes a Linux-based operating system (Debian OS),[31] which includes tens of thousands of other software utilities and applications,[32] all of which are "free"—users are free to use, modify, and redistribute such software.[33] The Debian Project was consciously based on the collaborative open source model—contributors to the Project are volunteers, and decisions are generally made on the basis of discussion and open debate.[34] The main work of

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29 *See The Debian Free Software Guidelines (DFSG)*, *supra* note 19.

30 *See About Debian*, DEBIAN, https://www.debian.org/intro/about (last visited Oct. 30, 2015).

31 *See id.*; *see also* GLYN MOODY, REBEL CODE: INSIDE LINUX AND THE OPEN SOURCE REVOLUTION 89–90 (2001).

32 *About Debian*, *supra* note 30 ("Debian comes with over 43000 [software] packages . . . .").

33 The Debian OS does include non-free programs, but those programs are packaged outside of the "main" directory. *Id.*

34 *Id.*

these volunteers is to organize and standardize the enormous number of separate software applications available in the distribution.[35]

The Debian Project grew quickly, and by 1997 some participants believed it was time to fashion a formal statement of the Project's ambitions.[36] Participants wanted to include a large number of software packages in the distribution, and sought an objective standard by which the project could determine if any individual software package constituted "free software."[37] The result was the Debian Social Contract,[38] a broad statement of the project's vision, and The Debian Free Software Guidelines (Guidelines),[39] a more detailed definition of its implementation. Only licenses that satisfy the demands of the two documents were to be included in the main Debian OS distribution.[40] Together, these texts constituted an early formulation of the values underlying free and open source licensing.

The ten short commandments of the Guidelines pronounce the Debian Project's requirements for which licenses are to be considered "free."[41] First, the Guidelines state that "free software" must be provided in source code, and that licenses must allow the modification and redistribution of that code.[42] Such permission for the modification and distribution of software is often seen as the central defining feature of open source.[43] The main focus of the Guidelines, however, is on non-discrimination.[44] The Guidelines include express demands that licenses

35 COLEMAN, *supra* note 13, at 128.

36 *See Debian Social Contract*, DEBIAN, https://www.debian.org/social_contract (last updated Dec. 31, 2015) (listing a ratification date for Version 1.0 of the Social Contract as July 5, 1997).

37 MOODY, *supra* note 31, at 167.

38 *Debian Social Contract*, *supra* note 36.

39 *The Debian Free Software Guidelines (DFSG)*, *supra* note 19.

40 *See* Bruce Perens, *The Open Source Definition*, *in* OPEN SOURCES: VOICES FROM THE OPEN SOURCE REVOLUTION 171, 173 (Chris DiBona et al. eds., 1999) ("The Social Contract documented Debian's intent to compose their system entirely of free software, and the Free Software Guidelines made it possible to classify software into free and non-free easily, by comparing the software license to the guidelines.").

41 *See The Debian Free Software Guidelines (DFSG)*, *supra* note 19.

42 *Id.* § 2 (stating that the program must include source code); *id.* § 1 (providing that a license "may not restrict any party from selling or giving away the software"); *id.* § 3 ("The license must allow modifications and derived works.").

43 *See* Jacobsen v. Katzer, 535 F.3d 1373, 1378–79 (Fed. Cir. 2008) ("Open Source software projects invite computer programmers from around the world to view software code and make changes and improvements to it. . . . In exchange and in consideration for this collaborative work, the copyright holder permits users to copy, modify and distribute the software code . . . ."); *see also* Oracle Am., Inc. v. Google Inc., 750 F.3d 1339, 1350 (Fed. Cir. 2014) (describing an open source license as an arrangement where software is "free of charge and provides that the licensee can use the packages" provided that innovations "contribute back").

44 COLEMAN, *supra* note 13, at 134 (describing non-discrimination as one of the Guidelines' "most salient themes"); WEBER, *supra* note 13, at 86 (describing non-discrimination as the "basic principle" of the Guidelines).

not discriminate against persons or groups (paragraph 5), fields of endeavor (paragraph 6), or other software distributions (paragraph 8).[45] In addition, the Guidelines include provisions that make discrimination against individual licensees a practical impossibility. Paragraph 7 of the Guidelines, for example, requires that any recipient of the software automatically receive the license without the need to execute a separate license agreement.[46] As a result, the software owner cannot prevent any individual from obtaining a license to the software. Once a user possesses the software, he must also receive the free license without any action or choice by the copyright holder. This barrier against de facto discrimination was buttressed by the later addition of a provision that required all licenses to be "technology-neutral."[47] The aim of this additional clause was to prohibit licensors from demanding "an explicit gesture of assent" from users since (according to the drafters) it may only be possible to provide such assent in certain technological contexts, but not in other settings.[48] By demanding "neutrality," this additional clause strengthens the Guidelines' articulated theme of non-discrimination. At the same time, the clause also reinforces the underlying legal structure in which licenses are granted automatically regardless of the copyright owner's wishes. Under these provisions, the licensor is denied any practical means of rebuffing any potential user of the software.

The Guidelines were soon adopted by the nascent Open Source Initiative, a non-profit organization founded in 1998 to support and promote the open source movement.[49] The Open Source Initiative was conceived as an organization that would market free software to "people who wore ties"[50]—members of the business community that were not always well-disposed to more sociopolitical claims of free software.[51] The Guidelines fit well with the ambitions of the Open Source Initiative, since the non-discrimination requirements did not allow exclusion of the commercial entities that they were striving to bring into the open

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45 *The Debian Free Software Guidelines (DFSG)*, *supra* note 19. Paragraph 8 of the Guidelines provides that licenses cannot discriminate in favor of the Debian Project—the user must retain its rights even if the software is distributed outside of the Debian OS, or with other "non-free" software. *Id.* § 8.

46 *Id.* § 7 ("The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties."). In the words of Bruce Perens, one of the drafters of the Guidelines, "[t]he license [grant] must be automatic, no signature required." Perens, *supra* note 40, at 179.

47 *The Open Source Definition (Annotated)*, *supra* note 6, § 10. This clause was added in 2004 by the Open Source Initiative to the original text of the Guidelines. *See History of the OSI*, OPEN SOURCE INITIATIVE, http://opensource.org/history (last updated Sept. 2012).

48 *The Open Source Definition (Annotated)*, *supra* note 6, § 10.

49 MOODY, *supra* note 31, at 167–68; *History of the OSI*, *supra* note 47.

50 Perens, *supra* note 40, at 173.

51 *Id.*; *see also* MOODY, *supra* note 31, at 168–69.

source fold. Indeed, the founders of the Open Source Initiative embraced the Guidelines wholesale, making only minor changes and removing specific references to the Debian Project.[52] The result became the Open Source Definition, a generally applicable yardstick for determining whether any license should be considered "open source."[53] The Open Source Initiative itself became, by its own description, the "community-recognized body for reviewing and approving licenses."[54]

The Open Source Definition is not the sole benchmark for determining whether software is free and open source. The Free Software Foundation (Foundation), founded by Richard Stallman in 1985, provides an ideological counterpoint to the efforts of the Open Source Initiative.[55] While the latter organization promotes the term "open source," the Foundation prefers the term "free software"—a term which is intended to point towards the ethical imperative of software freedom.[56] The Foundation maintains the Free Software Definition, a rival set of criteria for determining whether a license should be considered "free."[57] The Free Software Definition focuses on values of "freedom" and does not contain any explicit reference to principles of non-discrimination.[58] At the same time, the document incorporates a similar principle of non-discrimination in a number of implicit references. For example, the Free Software Definition requires that software be free for redistribution to "anyone anywhere."[59] It further insists on "[t]he freedom to run the program as you wish, for any purpose."[60] The software must be free to run "on any kind of computer system."[61] A license that discriminates between potential users or uses would not comply with these requirements.[62]

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52 MOODY, *supra* note 31, at 168 (quoting Bruce Perens as stating that in drafting the Open Source Definition, he "did not make any substantive changes to the" Guidelines, but "only changed [the name] from Debian to make it general").

53 *See The Open Source Definition (Annotated)*, *supra* note 6.

54 *About the Open Source Initiative*, OPEN SOURCE INITIATIVE, http://opensource.org/about (last visited Nov. 1, 2015).

55 *See* Richard Stallman, *Why Open Source Misses the Point of Free Software*, GNU, http://www.gnu.org/philosophy/open-source-misses-the-point.html (last updated Jan. 1, 2016) (describing "open source" as a term that "became associated with philosophical views quite different from those of the free software movement").

56 *See About the FSF*, FREE SOFTWARE FOUND., http://www.fsf.org/about (last visited Mar. 12, 2016); *see also* MOODY, *supra* note 31, at 168–69.

57 *See What Is Free Software?*, GNU, https://www.gnu.org/philosophy/free-sw.html (last updated Jan. 1, 2016).

58 *Id.*

59 *Id.*

60 *Id.*

61 *Id.*

62 Applying these requirements, the Free Software Foundation has opposed specific licenses for discriminating against commercial usage of the software or for prohibiting certain other

Both the Open Source Definition and the Free Software Definition (Definitions) thus incorporate the principle of non-discrimination as a fundamental requirement for a license to be considered "free" or "open source." Neither Definition allows licenses to discriminate against particular users or specific uses of the licensed materials. The following Section addresses the legal impact of these accepted principles.

B. *Interpretive Potential*

What power do the non-discrimination commitments in the Definitions have? The Definitions by their terms do not apply to any specific licensed software. Rather, the legal terms applicable to each piece of software are set out in the specific license chosen by the copyright holder, with each license providing rights and responsibilities according to its own distinct terms and conditions. No popular free or open source license makes express reference to the Definitions, and none explicitly incorporates the non-discrimination requirements.[63] Even so, through a number of informal and formal channels, the Definitions can influence both the open source community as a whole, as well as the interpretation and application of specific licenses.

First, and most obviously, the Definitions serve certification functions. The Open Source Initiative, by its own description, is "a standards body trusted both by the developer community and the worlds of business and government."[64] The compliance of an open source license with the Open Source Definition is "the gold standard of open-source licensing."[65] In this capacity, the Open Source Initiative offers a license review service, in which new licenses can be submitted for certification of compliance with the Open Source Definition.[66] The purpose of the review process is to ensure that a license "conforms to existing community norms and expectations."[67] As of March of 2016, the Open Source Initiative has certified seventy-eight licenses,[68] though it does not make public its reasons for its certifying or declining to

uses of the software. *See Various Licenses and Comments About Them*, GNU, https://www.gnu.org/philosophy/license-list.html (last updated Mar. 4, 2016).

63 For one list of popular open source licenses, see *Top 20 Open Source Licenses*, BLACK DUCK, https://www.blackducksoftware.com/resources/data/top-20-open-source-licenses (last visited Mar. 23, 2016).

64 *History of the OSI*, *supra* note 47.

65 *Id.*

66 *See The License Review Process*, OPEN SOURCE INITIATIVE, http://opensource.org/approval (last visited Nov. 1, 2015).

67 *Id.*

68 *Licenses by Name*, OPEN SOURCE INITIATIVE, http://opensource.org/licenses/alphabetical (last visited Mar. 12, 2016).

certify any specific license. While the Foundation does not provide a formal license review process leading to an official certification, it does maintain a list of licenses that the Foundation believes either conform to the Free Software Definition or do not.[69] Approval by the Open Source Initiative or the Foundation can be a prerequisite for acceptance of a license in the open source community. Some sites or projects will only accept software that is subject to approved licenses.[70] In addition, some national[71] and international[72] sources of legal authority identify free and open source software either by reference to the Definitions or to the licenses approved by the Open Source Initiative and the Foundation. Given the broad recognition of the Definitions, licenses that discriminate against certain uses or groups may themselves be excluded from the community.

The Definitions may also play a role in the interpretation of private contracts. An investment or merger agreement may require the target company to disclose how it makes use of "open source" software, and it may or may not provide a definition of that term.[73] A software development agreement may impose restrictions as to whether or how "open source" software may be incorporated into the project.[74] Certain patent or software licenses may provide a privileged position to open source projects.[75] Some private contracts make express reference to the Definitions in order to provide meaning to the term "open source." However, even if an agreement does not provide a formal definition of "open source software," courts may decide to turn to the widely accepted understanding of those terms, such as the Definitions, in construing the language of the agreement.[76] Again, licenses that do not

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69 *See Various Licenses and Comments About Them*, *supra* note 62.

70 *See, e.g.*, *Terms of Use*, SLASHDOT MEDIA, http://slashdotmedia.com/terms-of-use (last updated Feb. 18, 2016) ("Except as otherwise expressly permitted by these Terms, any Code submitted to SourceForge.net must be licensed to Slashdot Media and other licensees under a license that is: compliant with the Open Source Initiative ('OSI')'s Open Source Definition . . . .").

71 *See* FEDERAL SOURCE CODE POLICY, *supra* note 7, at 13 n.49 (stating, in a draft policy requiring federal agencies to release a portion of new custom code as open source software, that "a valid open source license is one that is approved by the Open Source Initiative").

72 *See International Authority & Recognition*, OPEN SOURCE INITIATIVE, http://opensource.org/authority (last updated Dec. 2015).

73 *See* HEATHER J. MEEKER, THE OPEN SOURCE ALTERNATIVE: UNDERSTANDING RISKS AND LEVERAGING OPPORTUNITIES 237 (2008) [hereinafter MEEKER, THE OPEN SOURCE ALTERNATIVE].

74 *Id.* at 242.

75 *See, e.g.*, *Open Patent Non-Assertion Pledge*, GOOGLE, http://www.google.com/patents/opnpledge/pledge (last visited Oct. 24, 2015) (pledging not to assert certain patents against software that satisfies the Open Source or Free Software Definitions).

76 *See, e.g.*, U.C.C. § 1-303(d) (AM. LAW INST. & UNIF. LAW COMM'N 2012) ("[U]sage of trade in the vocation . . . is relevant in ascertaining the meaning of the parties' agreement, may give particular meaning to specific terms of the agreement, and may supplement or qualify the

satisfy the non-discrimination requirements of the Definitions can find themselves written out of these private agreements.

Perhaps most significantly, the two Definitions can also play a role in the interpretation of open source licenses themselves. First, the Definitions may be seen as playing the role of a "trade code"—a written description of industry practices—and as such, may be used to interpret license terms in that industry regardless of whether such terms are ambiguous.[77] Second, open source licenses can be seen as "boilerplate" agreements—contracts that are not individually negotiated, but rather standardized for use across institutions and circumstances.[78] Courts have interpreted such boilerplate terms in accordance with the interests of the relevant business community, which may not necessarily be consistent with the intentions of the contracting parties themselves.[79] The understandings of industry groups such as the Open Source Initiative or the Free Software Foundation—understandings that are well expressed in the Definitions—can have particular importance as interpretative authority.[80] This approach may have more force when the pronouncements of the Foundation, such as its own Free Software Definition, are used to interpret the open source licenses that the Foundation itself has authored, including popular licenses such as the General Public License (GPL).[81] As such, the non-discrimination

terms of the agreement."); RESTATEMENT (SECOND) OF CONTRACTS § 202(5) (AM. LAW INST. 1981) ("Wherever reasonable, the manifestations of intention of the parties to a promise or agreement are interpreted as consistent with each other and with any relevant . . . usage of trade.").

77 *See generally* Lisa Bernstein, *Trade Usage in the Courts: The Flawed Conceptual and Evidentiary Basis of Article 2's Incorporation Strategy* n.24 (Coase-Sandor Inst. for Law & Econ., Working Paper No. 669, 2014). *See, e.g.*, *In re* Cotton Yarn Antitrust Litig., 505 F.3d 274, 280 (4th Cir. 2007) (using a trade code in the textile industry to construe oral agreements which did not mention arbitration as incorporating an obligation to submit disputes to arbitration, even though one of the parties may not have been aware of this "usage of trade").

78 *See Boilerplate*, BLACK'S LAW DICTIONARY (10th ed. 2014).

79 *See* Sharon Steel Corp. v. Chase Manhattan Bank, N.A., 691 F.2d 1039, 1051 (2d Cir. 1982) (interpreting a disputed boilerplate contractual provision in a manner that "best accommodates the principal interests of corporate borrowers and their lenders").

80 Stephen J. Choi & G. Mitu Gulati, *Contract as Statute*, 104 MICH. L. REV. 1129, 1161 (2006) ("Ideally, an industry association would exist that incorporated the viewpoints of all the relevant players in the industry in every pronouncement and decision the industry association made on the meaning of boilerplate terms. Under this ideal, a court may simply defer completely to the interpretations of the industry-wide association."); *see also* Bank of N.Y. v. First Millennium, Inc., 598 F. Supp. 2d 550, 565 (S.D.N.Y. 2009) ("[L]ook[ing] to the American Bar Foundation's *Commentaries on Indentures* for guidance when analyzing boilerplate indenture provisions."); Airgas, Inc. v. Air Prods. & Chems., Inc., 8 A.3d 1182, 1191–92 (Del. 2010) (using model forms and commentary of the American Bar Association to interpret a corporate charter and bylaws).

81 *Bank of N.Y.*, 598 F. Supp. 2d at 564–65 (using the American Bar Foundation's Commentaries on Model Debenture Indenture Provisions to interpret a boilerplate provision that was very similar to the model provision proposed by the American Bar Association). The Foundation has itself made reference to the Free Software Definition when interpreting the

requirements of the Definitions can provide important guidance in interpreting and applying specific license provisions. In accordance with ordinary canons of interpretation, license provisions should be interpreted to be consistent with the non-discrimination commitments of the Definitions.

C. *In the Licenses*

Despite the interpretive significance of the Definitions, and despite the centrality of the non-discrimination requirement to the Definitions themselves, the application of the non-discrimination principle has been limited. The principle has been used by the Debian Project, the Open Source Initiative, and the Free Software Foundation to determine if licenses may be certified as "free" or "open source,"[82] but has otherwise not been applied in interpreting the licenses themselves. Even in the certification context, the use of the principle has been restrained. This Section provides a short overview of some significant open source licenses in order to demonstrate the limited expression that the non-discrimination requirement has found in the analysis and interpretation of these licenses.

Both the Free Software Foundation and the Open Source Initiative have approved a number of licenses, confirming that these constitute "free" or "open source" licenses.[83] Broadly speaking, the approved licenses can be classified into two categories: "permissive" licenses, which grant the user broad rights to the software while asking for little in exchange,[84] and "copyleft" licenses, which, in contrast, impose certain reciprocal obligations on the user.[85] While both types of licenses champion the freedom of users to copy, modify, and distribute the software, copyleft licenses focus on the importance of preserving those freedoms for future iterations of the software.[86] As such, while

GPL. *See Frequently Asked Questions About the GNU Licenses*, GNU, https://www.gnu.org/licenses/gpl-faq.html (last updated Jan. 21, 2016). Some commentators have also applied the Open Source Definition in order to interpret the GPL. *See* ROSEN, *supra* note 14, at 127 ("The GPL is also silent about the scope and duration of the licenses it does grant. One can assume that the license is *world-wide*, consistent with the open source definition.").

82 *See* discussion *supra* Section I.A.

83 *See Licenses by Name*, *supra* note 68 (listing licenses "approved by the OSI via the License Review Process"); *Various Licenses and Comments About Them*, *supra* note 62 (listing the Free Software Foundations' classifications of certain licenses as "free" or "nonfree").

84 HEATHER MEEKER, OPEN (SOURCE) FOR BUSINESS: A PRACTICAL GUIDE TO OPEN SOURCE SOFTWARE LICENSING 31–32 (2015) [hereinafter MEEKER, OPEN (SOURCE) FOR BUSINESS] ("Open source licenses fall into two categories: permissive and copyleft.").

85 *Id.*

86 *See What Is Copyleft?*, GNU, https://gnu.org/copyleft/copyleft.en.html (last updated Oct. 3, 2015).

permissive licenses accept that users may refuse to provide others with the same rights they themselves were granted, copyleft licenses demand that all future users of the software be granted the same broad rights.[87]

The short, concise Berkeley Software Distribution (BSD) license typifies permissive licenses.[88] About half a page, the BSD license was born in 1989 out of the academic community at the University of California at Berkeley, and its permissive provisions reflect those academic origins.[89] Users of BSD-licensed software are granted rights to use and distribute the software, with or without their own modifications.[90] In exchange, the user is required only to retain the software copyright notice and the license text in the software, a requirement reminiscent of academic norms of credit and attribution.[91] Finally, the license provides that the software is provided without warranty and that the copyright holder accepts no liability for the use of the software.[92] In these few clauses, the BSD license plainly satisfies the core requirements of the Open Source and Free Software Definitions, since it provides users with almost unrestricted rights to distribute, use, and modify the software. The licensed rights are available to all recipients of the software, such that the license does not discriminate against any particular use or user. As such, the BSD license has been approved by both the Open Source Initiative[93] and the Free Software Foundation.[94]

In contrast, the GPL is the original and archetype copyleft license.[95] The first version of the GPL was drafted by Richard Stallman in 1985, and the license reflects the values of sharing and cooperation that

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87 *Id.* For a more detailed explanation of how copyleft operates in a specific license, see *infra* text accompanying notes 95–101.

88 For the text of the BSD license, see *The BSD 2-Clause License*, OPEN SOURCE INITIATIVE, http://opensource.org/licenses/BSD-2-Clause (last visited Oct. 30, 2015) [hereinafter *BSD License*]. There have been a number of different BSD licenses, each with the same common core. The original BSD licenses contained clauses requiring certain notices in advertising materials and prohibiting the use of the name of the software licensor. Later versions of the license dropped these requirements. *See generally Various Licenses and Comments About Them*, *supra* note 62 (listing the various BSD licenses).

89 WEBER, *supra* note 13, at 40.

90 *BSD License*, *supra* note 88 ("Redistribution and use in source and binary forms, with or without modification, are permitted provided that [certain] conditions are met . . . .").

91 *Id.*; *see also* WEBER, *supra* note 13, at 181 (discussing how the provisions of the BSD license reflect the values of the academic community).

92 *BSD License*, *supra* note 88.

93 *See Licenses by Name*, *supra* note 68.

94 *See Various Licenses and Comments About Them*, *supra* note 62.

95 For the text of the most recent version of the GPL, see *GNU General Public License*, GNU, http://www.gnu.org/copyleft/gpl.html (last updated Nov. 8, 2014) [hereinafter GPLv3] (providing Version 3 of the license, dated June 29, 2007). Unless stated otherwise, references to the GPL in this Article refer to the third and most recent version of the GPL license.

characterized Stallman's "hacker" community.[96] Like the BSD license, the GPL grants users broad rights to use, modify, and distribute the licensed software.[97] At the same time, however, the GPL requires that all distributions of the software be accompanied by the software source code licensed under the same copyleft license terms. In other words, while a user of BSD-licensed software is free to keep private any modifications and improvements to the software, the user of GPL software cannot keep any such changes proprietary. Instead, a user of GPL software is commanded to share those modifications and improvements in the same manner she received them.[98] These copyleft provisions aim to ensure that the software itself, as well as later improvements and changes to the software, always remain available under free licensing terms.[99] The GPL plainly satisfies many of the requirements of the Definitions (and, as discussed below, has been understood to satisfy the non-discrimination requirement) by dint of the broad rights it grants to users. Indeed, the Free Software Foundation views the copyleft requirements of the GPL as essential for protecting those broad user rights.[100] The GPL license has also been approved by the both the Open Source Initiative and the Free Software Foundation.[101]

The Creative Commons organization, founded in 2001, has created a set of standardized licenses for making non-software works available.[102] Some of the Creative Commons licenses contain "permissive" terms, which, like the BSD-license, provide broad rights in

96 For a history of how the GPL grew out of the ethics of Stallman's "hacker" community, see MOODY, *supra* note 31, at 17–27.

97 GPLv3, *supra* note 95, § 5 (providing rights to modify and distribute source code versions of the software); *id.* § 6 (providing rights to distribute non-source versions of the software).

98 *Id.* § 5(c) (providing that a recipient of the software that wishes to further distribute source code versions "must license the entire work, as a whole, under [the GPL] to anyone who comes into possession of a copy. [The GPL] will therefore apply . . . to the whole of the work, and all its parts, regardless of how they are packaged"); *id.* § 6 (providing that a recipient that wishes to distribute non-source versions must also provide source code "under the terms of [the GPL]"); *see also* ROSEN, *supra* note 14, at 103.

99 ROSEN, *supra* note 14, at 104 ("[The GPL] guarantees that all derivative works of GPL-licensed software will also be GPL-licensed software. Licensees cannot selfishly remove their improvements from the public commons. Derivative work software will always be free and open.").

100 *See What Is Copyleft?*, *supra* note 86.

101 *Licenses by Name*, *supra* note 68 (listing GPL license as approved); *Various Licenses and Comments About Them*, *supra* note 62.

102 For a summary of the Creative Commons licenses, see *About the Licenses*, CREATIVE COMMONS, http://creativecommons.org/licenses (last visited Oct. 28, 2015). For a summary of the history of the Creative Commons organization, see *History*, CREATIVE COMMONS, http://creativecommons.org/about/history (last visited Oct. 28, 2015).

exchange for minimal obligations.[103] Other Creative Commons licenses impose GPL-like copyleft obligations.[104] Both of these licensing options satisfy the Open Source and Free Software Definitions, since they provide unrestricted rights to use, modify, and distribute the licensed work. But not all of the other Creative Commons licenses comply with the Definitions. One popular Creative Commons license, for example, prohibits the use of licensed works for "commercial advantage or monetary compensation."[105] This explicit restriction on commercial use does not comply with the Definitions' commandments against discrimination, since it excludes commercial users and uses from the community of potential licensees. Indeed, ensuring the freedom to use licensed works for commercial purposes was one of the initial motivations for adopting the non-discrimination requirements.[106] Given this restriction, the "non-commercial" Creative Commons license has been criticized as being "incompatible" with the idea of free content licenses.[107]

Like the non-commercial requirement in some Creative Commons licenses, the GPL's copyleft requirements can also hinder the use of software for business purposes. For example, companies can be jealously protective of their own intellectual property rights, and these instincts often conflict with the GPL's obligation to license source code.[108] Despite this obstacle to the commercial use of GPL-licensed code, however, neither the Open Source Initiative nor the Free Software Foundation see the GPL (or copyleft requirements in other licenses) as discriminating against the commercial use of software in a proscribed manner.[109] In the language of anti-discrimination law, the non-discrimination requirement is generally seen as prohibiting the "disparate treatment" of users, but is not understood to prohibit

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103 *See, e.g.*, *Attribution 4.0 International*, CREATIVE COMMONS, http://creativecommons.org/licenses/by/4.0/legalcode (last visited Mar. 12, 2016).

104 *See, e.g.*, *Attribution-ShareAlike 4.0 International*, CREATIVE COMMONS, http://creativecommons.org/licenses/by-sa/4.0/legalcode (last visited Mar. 12, 2016).

105 *See Attribution-NonCommercial 4.0 International*, § 1(i), CREATIVE COMMONS, http://creativecommons.org/licenses/by-nc/4.0/legalcode (last visited Oct. 30, 2015).

106 Perens, *supra* note 40, at 173 (describing how the Open Source Definition was created to attract "conservative business people" to free and open source software).

107 *See The Case for Free Use: Reasons Not to Use a Creative Commons-NC License*, DEFINITION FREE CULTURAL WORKS, http://freedomdefined.org/Licenses/NC (last updated Jan. 27, 2016). This essay has been described by the Creative Commons Foundation as "the most widely read critique of the [non-commercial] term as non-free/open." *4.0/NonCommercial*, CREATIVE COMMONS, https://wiki.creativecommons.org/4.0/NonCommercial (last updated Sept. 10, 2013).

108 WEBER, *supra* note 13, at 192 ("Source code is conceptualized as the key basis of competitive advantage that a proprietary software company truly controls.").

109 *See Licenses by Name*, *supra* note 68 (listing the licenses in the GPL family as "approved by the OSI via the License Review Process"); *Various Licenses and Comments About Them*, *supra* note 62 (categorizing the GPL family of licenses as "free").

licensing terms that have a "disparate impact" on certain uses.[110] In other words, the GPL or other copyleft licenses do not expressly restrict the commercial use of software and, as such, they are considered "free" despite the fact that the obligations imposed under the license may nevertheless considerably burden such commercial use.[111]

With limited exceptions, the free and open source community has generally adopted this "disparate treatment" interpretation of the Definitions, accepting licenses that hamper but which do not expressly prohibit certain uses.[112] The Affero General Public License (AGPL), for example, contains requirements that are particular to and which specifically impose on the use of licensed works in online environments.[113] Nonetheless, both the Open Source Initiative and the Free Software Foundation see the AGPL as a free and open source license.[114] In the same way, the Free Software Foundation acknowledges

110 *See generally* Richard A. Primus, *Equal Protection and Disparate Impact: Round Three*, 117 HARV. L. REV. 493, 527 (2003) (contrasting "disparate treatment," which is aimed at "intentional discrimination," and "disparate impact law," which is "concerned with the allocation of . . . opportunities" regardless of any discriminatory intent).

111 *But see* Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 BERKELEY TECH. L.J. 1135, 1158 n.71 (2013) (opining that viral copyleft licensing will not satisfy a FRAND commitment).

112 One exception concerns license requirements to communicate private modifications made to licensed software. Such requirements do not expressly disadvantage against any specific group, but the Debian Project has nevertheless interpreted such requirements as discriminating against political dissidents and other individuals who may be limited as to which third parties they are able to or wish to communicate with. *See generally* Barak A. Pearlmutter et al., *DFSG and Software License FAQ (Draft)*, DEBIAN, https://people.debian.org/~bap/dfsg-faq.html (last visited Oct. 31, 2015). This exception may be explained by the hacker culture's frequently expressed commitment to privacy and freedom of speech. *See* COLEMAN, *supra* note 13, at 19. On the other hand, an earlier version of the GPL license did tolerate the licensor's imposition of additional, express restrictions against the use of licensed software in countries where the use or distribution of the software was restricted by intellectual property laws. *See GNU General Public License, Version 2*, § 8, GNU, https://www.gnu.org/licenses/old-licenses/gpl-2.0.en.html (last updated Apr. 12, 2014) [hereinafter GPLv2]. This rarely-used provision was later removed, and the authors of GPLv3 found its use "troubling." FREE SOFTWARE FOUND., GPLV3 FINAL DISCUSSION DRAFT RATIONALE 58 n.101 (2007) [hereinafter GPLV3 FINAL DISCUSSION DRAFT RATIONALE], http://gplv3.fsf.org/gpl3-dd4-rationale.pdf.

113 Section 13 of Version 3 of the Affero General Public License requires licensees to provide the source code of modified software to "all users interacting with it remotely through a computer network." *GNU Affero General Public License*, GNU, https://www.gnu.org/licenses/agpl-3.0.html (last updated Nov. 8, 2014).

114 *See Licenses by Name*, *supra* note 68; *Various Licenses and Comments About Them*, *supra* note 62. Before approving the AGPL as consistent with its own free software guidelines, the Debian Project first considered the specific costs that the AGPL imposes for licensees providing online services. *See* E-mail from Joerg Jaspert to 495721-done@bugs.debian.org (Nov. 28, 2008, 12:42 PM), https://lists.debian.org/debian-legal/2008/11/msg00097.html. In a similar vein, certain industries have found it difficult to incorporate software licensed under GPLv3, because of the requirements under that license to provide "Installation Information." *See, e.g.*, Jeremiah C. Foster, *Driven to Tears—GPLv3 and the Automotive Industry*, 7 INT'L FREE & OPEN SOURCE SOFTWARE L. REV. 29 (2015) (describing how the automotive industry has "blacklisted" the use of the GPLv3 software).

that free licenses can contain provisions specifying governing law and jurisdiction, even though such clauses can inconvenience licensees that do not reside in the identified jurisdiction.[115] As these examples show, nominally inclusive license requirements can still substantially hamper the contribution and involvement of particular groups.[116] Nevertheless, both the Open Source Initiative and the Free Software Foundation seem to view the non-discrimination requirement as precluding only express discrimination against specified uses or groups.

These examples typify how the non-discrimination principle has generally been applied—confined to a narrow rule addressing express license prohibitions and restricted to determining whether organizations should certify specific licenses as free and open source. The principle has not been applied to interpret the specific provisions of any license, nor has it been used to understand the structure of the open source license in general. This approach describes a principle that is peripheral to the central concerns of open source licensing. The next Part develops an alternative understanding of the non-discrimination requirement. By situating the principle in the broader context of legal non-discrimination regimes, this alternative interpretation clarifies the import of the principle and shows how the requirement should be applied to the analysis of particular license provisions.

II. NON-DISCRIMINATION

The non-discrimination foundations of open licensing are not unique to that context, but find analogies in a number of other commercial legal arrangements. This Part begins by situating a number of such arrangements against default rules that normally allow for "discrimination" in commercial dealings, and demonstrates the shared divergence of non-discrimination regimes from this common setting. An appreciation of the reasons for this common departure from the ordinary rules can assist in understanding the importance of the non-discrimination principle in open licensing.[117]

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115 *What Is Free Software?*, *supra* note 57 ("It is acceptable for a free license to specify which jurisdiction's law applies, or where litigation must be done, or both.").

116 *Thornburg v. Gingles*, 478 U.S. 30 (1986) (providing an analog from race discrimination law). *Thornburg* involved a nominally race-neutral redistricting plan, which the Court found "impair[ed] the opportunity of black voters 'to participate in the political process and to elect representatives of their choice'" regardless of the plan's actual intent. *Id.* at 34 (quoting Voting Rights Act of 1965, Pub. L. No. 89-110, 79 Stat. 437 (codified as amended at 52 U.S.C. § 10301 (2012))).

117 *See infra* notes 158, 164–66 and accompanying text.

Classically, owners of intellectual property rights are free to choose their contractual partners. Analogizing patents to other forms of property, the Supreme Court has stated that a patentee's right to exclude competitors is "the very essence of the right conferred by the patent, as it is the privilege of any owner of property to use or not use it, without question of motive."[118] Following this precedent, a long line of cases has indicated that the owner of a patent or copyright may unilaterally refuse to license that right to third parties.[119] These doctrines accord with the fundamental goals of intellectual property law, since requiring patentees to license their inventions would reduce incentives for innovation.[120] This approach is also consistent with the general rule of English and American common law that owners of private property may at their discretion exclude individuals from their property and refuse to contract with third parties.[121]

To be sure, in certain situations intellectual property owners may be compelled or may commit to grant access to their rights. For example, the copyright laws contain a number of compulsory license schemes, including for public broadcasting,[122] cable retransmission[123] and digital audio retransmission.[124] Under these regimes, a user may exploit the protected work without the permission of the copyright owner, so long as the user complies with the statutory arrangements and

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118 Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 429 (1908).

119 *See, e.g.*, Hartford-Empire Co. v. United States, 323 U.S. 386, 432 (1945) ("A patent owner is not in the position of a quasi-trustee for the public or under any obligation to see that the public acquires the free right to use the invention. He has no obligation either to use it or to grant its use to others."); *In re* Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1328 (Fed. Cir. 2000) (holding that the defendant was "was under no obligation to sell or license its patented parts and did not violate the antitrust laws by refusing to do so"); United States v. Westinghouse Elec. Corp., 648 F.2d 642, 647 (9th Cir. 1981) ("The right to license [a] patent, exclusively or otherwise, or to refuse to license at all, is 'the untrammeled right' of the patentee." (quoting Cataphote Corp. v. DeSoto Chem. Coatings, Inc., 450 F.2d 769, 774 (9th Cir. 1971)); SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1204 (2d Cir. 1981) (holding that the refusal by a patent holder to license a patent is "conduct . . . expressly permitted by the patent laws"); *see also* 35 U.S.C. § 271(d)(4) (2012) (providing that refusal to license patents does not constitute patent misuse). *But see* Image Tech. Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1997). With regard to a unilateral refusal to license a copyright, see Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 (1st Cir. 1994) (providing for a presumption that "an author's desire to exclude others from use of its copyrighted work" does not violate antitrust law), *abrogated on other grounds by* Reed Elsevier, Inc. v. Muchnick, 559 U.S. 154 (2010), and *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1329 (holding that defendant's "refusal to sell or license its copyrighted works was squarely within the rights granted by Congress to the copyright holder").

120 Herbert Hovenkamp et al., *Unilateral Refusals to License*, 2 J. COMPETITION L. & ECON. 1, 7 (2006).

121 Joseph William Singer, *No Right to Exclude: Public Accommodations and Private Property*, 90 NW. U. L. REV. 1283, 1290 (1996).

122 17 U.S.C. § 118 (2012).

123 17 U.S.C. § 111(c).

124 17 U.S.C. § 114(d)(2)(C).

makes payment of the established royalties. Even in the absence of statutory regimes, courts have in certain circumstances imposed compulsory licenses on intellectual property owners.[125] Such access obligations may also be undertaken voluntarily. Free and open source licenses, of course, are an example of a voluntary commitment to provide third parties with access to intellectual property rights. Similarly, intellectual property owners that participate in standard setting organization often commit to license their rights to all willing licensees under terms that are "fair, reasonable, and non-discriminatory" (FRAND).[126] Courts and administrative agencies have increasingly recognized that such voluntary FRAND commitments restrict the full exercise of rights that are typically incident to intellectual property.[127]

The FRAND assurance bears a natural resemblance to the open source non-discrimination commitment, since both are founded on promises of open access to intellectual property. As such, analysis of the FRAND obligation can provide insight into the open source commitment. The FRAND "non-discrimination" assurance is typically taken as a commitment to provide licenses on equal economic terms to similarly situated licensees, rather than a moral statement on the boundaries of standard-setting communities, suggesting that open source licenses should be similarly understood.[128] But there are important differences between the open source license and the FRAND undertaking that complicate this comparison. First, the FRAND non-discrimination commitment is specifically structured to counter potential abuse of the standard-setting system, while open source licenses are not responding to that particular concern.[129] Second, the

125 Makan Delrahim, Deputy Assistant Attorney Gen., U.S. Dep't of Justice, Speech at the British Institute of International and Comparative Law: Forcing Firms to Share the Sandbox: Compulsory Licensing of Intellectual Property Rights and Antitrust (May 10, 2004), http://www.justice.gov/atr/public/speeches/203627.htm.

126 *See generally* Lemley & Shapiro, *supra* note 111, at 1136–37.

127 *See, e.g.*, Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1332 (Fed. Cir. 2014) (holding that the existence of FRAND commitments "strongly suggest that money damages are adequate to fully compensate [the plaintiff] for any infringement" and that a plaintiff should not be entitled to an injunction on FRAND encumbered patents), *overruled on other grounds by* Williamson v. Citrix Online, LLC, 792 F.3d 1339 (Fed. Cir. 2015); Microsoft Corp. v. Motorola, Inc., 854 F. Supp. 2d 993 (W.D. Wash. 2012) (modifying the methodology of calculating patent damages in order to set a "reasonable and non-discriminatory" royalty rate); *see also* Motorola Mobility LLC, 78 Fed. Reg. 3427-01 (FTC Jan. 16, 2013) (consent order limiting Google's ability to seek injunctions for the infringement of standard essential patents).

128 Dennis W. Carlton & Allan L. Shampine, *An Economic Interpretation of FRAND*, 9 J. COMPETITION L. & ECON. 531 (2013) (summarizing literature on the non-discrimination prong of FRAND commitments); Richard J. Gilbert, *Deal or No Deal? Licensing Negotiations in Standard-Setting Organizations*, 77 ANTITRUST L.J. 855, 859 (2011) (offering an analysis of the FRAND non-discrimination requirement).

129 *See, e.g.*, Lemley & Shapiro, *supra* note 111, at 1137.

standard open source license typically provides relatively clear ex ante non-discriminatory licensing terms. Indeed, the Open Source Initiative and Free Software Foundation Definitions have been principally dedicated towards delineating acceptable terms for such licenses.[130] In contrast, courts and commentators have struggled to give meaning to the amorphous FRAND commitment.[131] Standard-setting organizations do not provide definitions of the term, and often disclaim any role in determining whether specific licenses satisfy the FRAND commitment.[132] Given this ambiguity, FRAND obligations can provide little guidance in understanding the non-discrimination commitment of the open source license. Third, the limited authority concerning FRAND non-discrimination largely focuses on the magnitude of royalty rates payable by licensees.[133] These matters have little relevance to the open source license, under which software is typically provided at no charge.[134]

More general non-discrimination regimes provide a clearer basis for comparison. Common carrier obligations, for example, parallel the open source non-discrimination commitment without the idiosyncrasies of the standard-setting context. Moreover, the long history and diverse application of the common carrier doctrines provide fruitful bases for comparison. Historically, common carrier obligations required certain private property owners, such as innkeepers, ferrymen, and warehouses, to serve all willing customers without discrimination.[135] These obligations were later extended, first by judicial decision and later by statute and regulation, to communication providers, such as telephone companies, and to transportation

130 *See* discussion *supra* Section I.A.

131 Microsoft Corp. v. Motorola, Inc., 696 F.3d 872, 877 (9th Cir. 2012) ("Courts and commentators are divided as to how, if at all, RAND licensing disputes should be settled.").

132 Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1906 (2002).

133 *See, e.g.*, Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201 (Fed. Cir. 2014) (providing guidance in establishing a RAND royalty); *In re* Innovatio IP Ventures, LLC Patent Litig., No. 11 C 9308, 2013 WL 5593609 (N.D. Ill. Oct. 3, 2013) (same); Microsoft Corp. v. Motorola, Inc., No. C10–1823JLR, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013) (setting RAND royalty terms).

134 Courts have also examined whether a patentee can obtain an injunction for the infringement of a FRAND-encumbered patent. *See, e.g.*, Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1332 (Fed. Cir. 2014), *overruled on other grounds by* Williamson v. Citrix Online, LLC, 792 F.3d 1339 (Fed. Cir. 2015). The relevance of this issue for the open source context is questionable. *See* Jacobsen v. Katzer, 535 F.3d 1373, 1382 (Fed. Cir. 2008) (holding that injunctions are available for the infringement of open source-licensed software since the license conditions "might well be rendered meaningless absent the ability to enforce through injunctive relief").

135 *See generally* James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 FED. COMM. L.J. 225, 251–69 (2002).

networks, such as railroads.[136] All such common carriers, across this range of industries and business models, distinguish themselves by providing services to all willing customers on like terms, without making "individualized decisions, in particular cases, whether and on what terms to deal."[137] The open source licensor shares this distinction by making available her intellectual property rights on standardized terms, without discrimination and without choosing between different potential partners. As discussed in greater detail below, the motivation for common carrier regulation provides insight into a licensor's incentives to provide open source commitments.[138]

A number of important industries operate under such common carrier obligations. Communications providers, for example, have long been required to serve all customers indiscriminately, and have even been obligated to provide competitors with access to their own private property. As early as 1901, the Supreme Court found that telegraph companies were required under common law to treat customers equally and without "unjust discrimination."[139] A number of state courts held that telephone companies were required to extend service to all customers, notwithstanding financial or contractual disputes,[140] and those requirements were codified under federal law in the Mann-Elkins Act of 1910.[141] The Communications Act of 1934 (1934 Act) commanded telephone companies to charge customers equally, according to published rates.[142] Though later deregulation permitted telecommunications providers to discriminate as to price, they were nonetheless not permitted to refuse "to deal with any segment of the public."[143] Certain telephone providers are also required to interconnect with other networks, effectively mandating the provision of physical

136 *Id.*

137 Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 525 F.2d 630, 641 (D.C. Cir. 1976) (identifying the "critical point" that distinguishes common carriers).

138 *See infra* notes 159–72 and accompanying text.

139 W. Union Tel. Co. v. Call Publ'g Co., 181 U.S. 92, 100 (1901).

140 *See, e.g.*, State *ex rel.* Webster v. Neb. Tel. Co., 22 N.W. 237 (Neb. 1885) (holding that the position of telephone company as a common carrier required the company to provide telephone service, notwithstanding a dispute regarding payment); State *ex rel.* Gwynn v. Citizens' Tel. Co., 39 S.E. 257 (S.C. 1901) (holding that telephone company is obligated to provide service notwithstanding dispute).

141 The Mann-Elkins Act of 1910 required telephone service providers to offer "service on request at just and reasonable rates, without unjust discrimination or undue preference." Essential Commc'ns Sys., Inc. v. Am. Tel. & Tel. Co., 610 F.2d 1114, 1118 (3d Cir. 1979) (describing the Mann-Elkins Act of 1910, ch. 309, 36 Stat. 539).

142 *See* Communications Act of 1934, ch. 652, 48 Stat. 1064 (codified as amended at 47 U.S.C. § 203(a) (2012)); *see also* JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, DIGITAL CROSSROADS: TELECOMMUNICATIONS LAW AND POLICY IN THE INTERNET AGE 37 (2d ed. 2013).

143 Orloff v. FCC, 352 F.3d 415, 420 (D.C. Cir. 2003).

space, service, and network access to direct competitors.[144] Most recently, the Federal Communications Commission extended common carrier obligations to broadband Internet service companies, requiring them to provide indiscriminate service to all application providers.[145]

The transportation industry has also operated under similar common carrier obligations. Anglo-American common law imposed an early obligation to serve all passengers without discrimination under reasonable conditions, and to charge equal rates in similar situations.[146] In 1887, the Interstate Commerce Act codified the common carrier duties applicable to the growing railroads, and required lines to charge "reasonable and just" and non-discriminatory prices.[147] Later legislation imposed on the railroads an affirmative duty to serve all willing customers according to standardized rates.[148] In 1935, the Motor Carrier Act regulated many bus and trucking lines as common carriers, requiring these entities to provide service "without unjust discrimination, undue preferences or advantages."[149] Such transportation providers were also required to file tariffs and charge only the published rates.[150] Deregulation of the transportation industry largely eliminated many of the tariff requirements, but the statutory obligations to provide service on a non-discriminatory basis remain.[151]

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144 47 U.S.C. § 201(a). For a description of the practical ramifications of the interconnection requirement, see NUECHTERLEIN & WEISER, *supra* note 142, at 57–58. This interconnection requirement was later expanded by the Telecommunications Act of 1996, Pub. L. No. 104-104, sec. 101, § 251, 110 Stat. 56, 61 (codified as amended at 47 U.S.C. § 251(a) (2012)).

145 Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738 (Apr. 13, 2015) (codified at 47 C.F.R. pts. 1, 8, 20).

146 Jurgen Basedow, *Common Carriers—Continuity and Disintegration in United States Transportation Law—Part I*, 13 TRANSP. L.J. 1, 13 (1983); *see also* Interstate Commerce Comm'n v. Balt. & O. R. Co., 145 U.S. 263, 275 (1892) (stating that prior to the 1887 enactment of the Interstate Commerce Act, railway traffic "was regulated by the principles of the common law applicable to common carriers").

147 Interstate Commerce Act, ch. 104, 24 Stat. 379, 379 (1887) (codified as amended in scattered sections of 49. U.S.C.).

148 *See* Basedow, *supra* note 146, at 23. Later cases found that "a railroad may not refuse to provide services merely because to do so would be inconvenient or unprofitable." GS Roofing Prods. Co. v. Surface Transp. Bd., 143 F.3d 387, 391 (8th Cir. 1998).

149 Motor Carrier Act, ch. 498, 49 Stat. 543, 543 (1935) (codified as amended in scattered sections of 49. U.S.C.); *see also* John J. George, *Federal Motor Carrier Act of 1935*, 21 CORNELL L. REV. 249, 259 (1936) (describing the Act's prohibitions against discrimination as battling "[t]he evils of rebates, discriminations and other favoritism"), http://scholarship.law.cornell.edu/clr/vol21/iss2/2.

150 George, *supra* note 149, at 260.

151 Paul Stephen Dempsey, *Transportation: A Legal History*, 30 TRANSP. L.J. 235 (2003); *id.* at 326 (concerning the deregulation of the railroads); *id.* at 350 (concerning deregulation of other motor vehicles). Similar obligations to provide service on a nondiscriminatory basis also apply to the air carrier and shipping industries. *See* Basedow, *supra* note 146, at 33 (concerning ocean shipping); *id.* at 38–39 (concerning airline traffic).

The non-discrimination principle of open source licensing mirrors these common carrier obligations. The archetypical common carrier, in the words of the Court of Appeals for the D.C. Circuit, provides a standard service without "room for individualized bargaining and discrimination in terms."[152] In other words, the classic common carrier does not adapt its commercial understandings through negotiation, but instead provides service to all customers at standard terms. Under some regimes, the common carrier may even be required to post generally applicable rates that prevent individualized bargaining.[153] In the same sense, the open source licensor provides all willing licensees with published uniform terms for the same software. This is not to say that an open source licensor cannot update the software, offer (additional) different licensing terms, or even cease (its own) distribution of the open source software altogether.[154] Even if the licensor takes such actions, however, the software that was originally licensed remains available to recipients under open source terms.[155] Each recipient of the originally licensed software may continue to receive those materials under identical terms—possibly from a now unwilling licensor—and the licensor is legally unable to vary those terms for changing circumstances or different licensees.[156] In sum, neither the common carrier nor the open source licensor adapt terms for differently-situated commercial partners: the same terms are available to all.[157]

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152 Cellco P'ship v. FCC, 700 F.3d 534, 548 (D.C. Cir. 2012). The Court of Appeals for the D.C. Circuit, with its jurisdiction over rulemaking by the Federal Communications Commission, has repeatedly addressed the question of what constitutes common carrier regulation for purposes of the Telecommunications Act of 1996. *See, e.g.*, Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014); *Cellco P'ship*, 700 F.3d 534.

153 *See supra* notes 142, 148, 150 and accompanying text.

154 Although, allowing a licensor to completely revoke an open source license, such that no further licensees would be entitled to a license, would be inconsistent with the express terms of many such licenses. *See, e.g.*, GPLv3, *supra* note 95, § 4 (allowing further distribution to additional users of source code together with "notices stating that [the GPL] . . . appl[ies] to the code"); *id.* § 5(b) (allowing further distribution to additional users of modified source code with "prominent notices stating that it is released under [the GPL]"); *BSD License*, *supra* note 88 (permitting further distribution of source and binary code to additional users, provided that it is accompanied by the enumerated "list of conditions").

155 *Attribution-NonCommercial 4.0 International*, *supra* note 105, § 6(c) ("For the avoidance of doubt, the Licensor may also offer the Licensed Material under separate terms or conditions or stop distributing the Licensed Material at any time; however, doing so will not terminate this Public License."); *cf.* Negotiated Data Sols. LLC, File No. 051-0094, 2008 WL 4407246 (F.T.C. Sept. 22, 2008) (decision and order), http://www.ftc.gov/os/caselist/0510094/080122do.pdf (finding that a withdrawal of previous licensing commitments in the standard-setting context constituted a prohibited unfair method of competition and a prohibited unfair act or practice).

156 *Cf. Cellco P'ship*, 700 F.3d at 547 ("If a carrier is forced to offer service indiscriminately and on general terms, then that carrier is being relegated to common carrier status.").

157 In contrast, the standard-setting FRAND commitment, with its weaker non-discrimination demands, has not been understood to prohibit individualized negotiation. *See* Damien Geradin, *The Meaning of "Fair and Reasonable" in the Context of Third-Party*

Given the similarities between the strong non-discrimination regimes of open source and common carriers, the well-developed jurisprudence of the earlier common carrier doctrines can provide insight into the modern open source license. Specifically, understanding the reasons for the imposition of the common carrier non-discrimination requirements can shed light on a licensor's motivations for voluntarily assuming the analogous open source commitment. For instance, one of the central explanations for the imposition of the common carrier requirements is the social role assumed by the service provider—the common carrier "holds itself out" to society as a provider of specific services and, as such, effectively commits itself in a quasi-contractual sense to provide such services to the public on a non-discriminatory basis.[158] Such businesses are called to satisfy the social role they have assumed and, as such, are precluded from (unreasonably) discriminating between members of the public. This explanation also illuminates the motivation of the open source licensor, since the open license can also be viewed as the assumption of a public commitment. By making materials available under an open source license, the rights holder publicly obligates itself to provide access to those materials without discrimination.

What does the open source licensor gain by making this public commitment? Commercial entities that release code as open source are normally interested in the broad adoption of that software, often expecting profit from a complementary market.[159] The success of that strategy, however, depends on convincing potential users and

Determination of FRAND Terms, 21 GEO. MASON L. REV. 919, 924 (2014). Indeed, courts and commentators have acknowledged that "non-discrimination" in the FRAND context does not preclude license agreements with diverse terms, or even different royalty rates. *See* Microsoft Corp. v. Motorola, Inc., No. C10-1823JLR, 2013 WL 2111217, at *19 (W.D. Wash. Apr. 25, 2013) (in determining a FRAND royalty, taking into consideration the "extent to which the infringer has made use of the invention and value of that use to the infringer"); Carlton & Shampine, *supra* note 128, at 531; Gilbert, *supra* note 128, at 872–77 (discussing a range of possible ways to structure royalty rates under a non-discrimination regime).

158 Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 525 F.2d 630, 641 (D.C. Cir. 1976) ("This requirement, that to be a common carrier one must hold oneself out indiscriminately to the clientele one is suited to serve, is supported by common sense as well as case law."); *see also* Thomas B. Nachbar, *The Public Network*, 17 COMMLAW CONSPECTUS 67, 86 (2008); Singer, *supra* note 121, at 1326 (asserting that "cases and treatises consistently and repeatedly base the duty to serve on the notion that innkeepers and common carriers hold themselves out as open to the public"). This rationale provides an explanation for the imposition of non-discrimination obligations in competitive industries, such in the hotel, tracking, or taxi trades. Nachbar, *supra*.

159 LERNER & SCHANKERMAN, *supra* note 19, at 50, 74; WEBER, *supra* note 13, at 195–96 ("*Loss leaders* give away open source software as a way of generating demand and seeding a larger market for a linked commercial product."). Google's open source release of Android provides a classic example of this strategy. Google provides the Android operating system for free, since it expects profit from the complementary market of Internet advertising. *See* STEVEN LEVY, IN THE PLEX: HOW GOOGLE THINKS, WORKS, AND SHAPES OUR LIVES 214 (2011).

developers to invest in the software ecosystem. The non-discrimination commitment serves this goal by providing potential participants with important ex ante assurances. Users, for example, may fear that the technology owner will increase fees or reduce functionality after the user has invested in (i.e., spent time learning or uploading content to) the ecosystem.[160] Developers may also worry that future updates of the platform will not be backwards compatible, essentially rendering its own prior development efforts worthless.[161] Potential contributors (either corporations or individuals) to an open source project may also be concerned that the project manager will close down the project or cease making code available on an open source basis.[162] The non-discriminatory licensing commitment of the open source license allows rights-holders to signal that such investments will not be abused, since, under the non-discriminatory license, anyone may seize the reins of further development and support.[163] This surrender of control allays the fears of users, developers, and contributors and encourages adoption of the software. In this way, the voluntary non-discrimination commitment can play a central role in the licensor's commercial objectives.

A second set of explanations for the imposition of common carrier duties grows out of the competitive position of the carrier. According to these approaches, non-discrimination duties prevent the common carrier from unreasonably exploiting either accumulated market power or an extraordinary legal position. Such rationales were used to justify

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160 *See* LERNER & SCHANKERMAN, *supra* note 19, at 50 ("By using open source licenses when releasing new code, the firm can promise users that they will not be 'held up' by a future price increase after adopting a technology . . . ."); Barnett, *supra* note 24, at 1878 (platform owners must persuade users that "even after the platform achieves scale and delivers value in the form of network effects, the platform holder will not regulate access in order to expropriate that value from users"); Michael Schwarz & Yuri Takhteyev, *Half a Century of Public Software Institutions: Open Source as a Solution to Hold-Up Problem*, 12 J. PUB. ECON. THEORY 609 (2010).

161 *See* Barnett, *supra* note 24, at 1865, 1885 (describing possible means by which a platform owner could "expropriate user investments," including "incomplete efforts at maintaining backward compatibility"); *see also* LERNER & SCHANKERMAN, *supra* note 19, at 74 ("Distributing under an open source license also has other advantages such as providing users with a guarantee that if the firm changed strategy, the product would still be available and furthermore could still be improved by others.").

162 *Cf.* LERNER & SCHANKERMAN, *supra* note 19, at 46 (discussing how licenses are used to signal project contributors).

163 WEBER, *supra* note 13, at 193 (stating that "open source dramatically reduces the potential for supplier lock-in" and solves the problem of "'asset-specific investments' by customers"); *see also* Barnett, *supra* note 24, at 1896 (disclosing source code limits the copyright holders "ability to expropriate developer users' specific investments"); *cf.* Robert P. Merges, *A New Dynamism in the Public Domain*, 71 U. CHI. L. REV. 183, 191 (2004) ("The absence of property rights in Linux permits firms to cooperate . . . without the threat of becoming entangled in property rights disputes.").

the early imposition of common carrier regulation on telephone and telegraph businesses, as well as the railroads.[164] These explanations find their jurisprudential genesis in the historic decision of *Munn v. Illinois*, where the Supreme Court held that the market power retained by a cartel of grain warehouses justified the imposition of common carrier regulation.[165] Since *Munn*, this rationale has become a dominant justification for the imposition of non-discrimination access rules.[166]

These competition-based justifications can also clarify the position of the open source licensor. For large open source projects, the non-discrimination commitment can be seen as a pledge to not unfairly exploit its own competitive position. In this way, Google has argued that, despite a dominant market position, the open source availability of Android prevents Google's own exploitation of its licensees.[167] Oracle has made similar arguments concerning the open source licensing of the popular database software MySQL. In 2010, Oracle's proposed acquisition of MySQL was examined by regulators in the European Union, who expressed concern that the transaction would reduce competition in the database software market.[168] In response, Oracle argued that its own control of the MySQL software would be limited, since the software was readily available to all on a non-discriminatory basis under the open source GPL license.[169] In other words, the intended

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164 Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 525 F.2d 630, 640 (D.C. Cir. 1976) (describing common carrier regulation of railroads in the nineteenth century); Speta, *supra* note 135, at 261. Later regulation of the telecommunications industry was also motivated by concerns of market power and discrimination. *Id.* at 264.

165 Munn v. Illinois, 94 U.S. 113 (1876).

166 Nachbar, *supra* note 158, at 93.

167 *See* Feitelson v. Google Inc., 80 F. Supp. 3d 1019 (N.D. Cal. 2015). In order to preload Google mobile applications on a mobile phone, manufacturers were required to execute a Mobile Application Distribution Agreement (MADA). Defendant Google Inc.'s Notice of Motion & Motion to Dismiss Plaintiffs' First Amended Class Action Complaint; Memo of Points & Authorities in Support at 2, *Feitelson*, 80 F. Supp. 3d 1019 (No. 5:14-cv-02007-BLF), 2014 WL 5247660. Plaintiffs alleged that Google's licensing of Android and such mobile applications was anticompetitive. *Id.* at 7. In its defense, Google noted that Android was available under open source terms, and that manufacturers were free to install Android on devices without executing a MADA or preloading any Google mobile applications. As such, no manufacturer was "coerced to preload Google Search on any device" or "prevented from preloading an app of its choice on a device." *Id.* at 3. Similarly, no "consumer was prevented from obtaining the apps that he or she desired." *Id.* The district court dismissed the claims of exclusionary conduct and tying for failure to satisfy pleading requirements, without addressing the freedom of manufacturers under Android's open source license. *See Feitelson*, 80 F. Supp. 3d 1019.

168 Commission Decision of 21.01.2010 Declaring a Concentration to Be Compatible with the Common Market and the Functioning of the EEA Agreement, § VI(B)(4.4), 2009 O.J. (C 183) 32, http://ec.europa.eu/competition/mergers/cases/decisions/m5529_20100121_20682_en.pdf.

169 *Id.* ¶¶ 715–50. The European Commission accepted this argument with a degree of skepticism, noting only that "the possibility cannot be ruled out that forks of MySQL might also develop to exercise a constraint on Oracle to some extent." *Id.* ¶ 750. Much of this skepticism,

audience of the non-discrimination commitment may consist of not only users, developers, and community participants, but may also include government regulators. In the same way that regulators can respond to market power by imposing non-discrimination obligations, the voluntary open source commitment can be part of a strategy for fending off such scrutiny at the outset.[170]

Non-discrimination may also be among the tactics used by open source software collaborations (as opposed to projects with a single copyright holder, such as Android or MySQL) to neutralize potential antitrust scrutiny. Without a non-discrimination commitment, the members of an open source project may have been able to deny licenses to certain competitors. Such concerted refusals to license can be actionable under antitrust law if competitors are disadvantaged.[171] Indeed, open source collaborations already acknowledge the possibility that their commercial cooperation can lead to anticompetitive behavior, and many such projects have adopted antitrust policies.[172] The assurance, however, that any developed software will be available to all

however, was rooted in the perceived need of certain commercial licensees to obtain proprietary (non-GPL) licenses to database software, and the fact that only Oracle—as the sole copyright holder—would be able to provide such licenses. *Id.* ¶¶ 60, 718–29. As such, the Commission may have been more receptive to Oracle's arguments were it to have surrendered more control by placing MySQL under a more permissive open source license. Indeed, in order to obtain the Commission's approval of the acquisition, Oracle pledged in certain cases not to assert the relatively more restrictive obligations of the GPL. *Id.* ¶¶ 645–46.

170 *See generally* Scott Sher et al., *The Emerging Role of Open-Source Software in Merger Analysis*, 32 EUR. COMPETITION L. REV. 323, 327 (2011); *cf.* Jorge L. Contreras, *Patent Pledges*, 47 ARIZ. ST. L.J. 543, 588–89 (2015) (describing how patentees may make "voluntary restraint" pledges in order to persuade governmental "authorities to approve a transaction under review or to discontinue an investigation of the patent holder's activities").

171 *See, e.g.*, Am. Needle, Inc. v. Nat'l Football League, 560 U.S. 183 (2010) (holding that the combined refusal of the teams of the National Football League to license trademarks constituted conduct that could be illegal under the antitrust laws); Princo Corp. v. Int'l Trade Comm'n, 616 F.3d 1318, 1334–35 (Fed. Cir. 2010) (en banc) (analyzing the refusal of partners in a joint venture to license intellectual property under the antitrust Rule of Reason); Primetime 24 Joint Venture v. Nat'l Broad. Co., 219 F.3d 92, 102 (2d Cir. 2000) (refusing to dismiss antitrust claims concerning a concerted refusal to license copyrights).

172 The antitrust policy of the OpenStack Foundation, for example, prohibits members from participating in agreements that "would result in discriminatory treatment of actual or potential" members. *The OpenStack Foundation Antitrust Compliance Policy*, § IV, OPENSTACK, http://www.openstack.org/legal/antitrust-compliance-policy (last visited Mar. 13, 2016). The policy of the Eclipse Foundation similarly addresses the possibility that refusals to license might be considered a prohibited group boycott. ECLIPSE FOUND., ANTITRUST COMPLIANCE POLICY § I.C (2003), https://eclipse.org/org/documents/Eclipse%20ANTITRUST%202003_11_10%20Final.pdf; *see also* Schwarz & Takhteyev, *supra* note 160, at 623 (discussing antitrust concerns of the SHARE consortium, a predecessor of modern open source organizations).

willing licensees on a non-discriminatory basis can help in defusing such concerns.[173]

In this manner, open source collaborations can be seen as similar to patent pools.[174] In patent pools, several patent holders come together to collectively license multiple patents. Some products may require the complementary use of many technologies, and the availability of all such technologies from the single patent pool has been understood to reduce transaction costs and facilitate the development of new products.[175] At the same time, regulators have expressed concern that some downstream licensees could be disadvantaged by the patent pool, either by participants refusing to provide access to the technology or by charging unfair rates. Such concerns have been eased by requirements that patent pools provide access to the licensed technology on a non-discriminatory basis.[176] Open source consortiums, for all their differences, provide a similar example of firms coming together to provide access to a collection of intellectual property rights, and similar worries of discriminatory treatment could have been raised. The fundamental non-discrimination commitment of open source licenses, however, provides assurances against the unfair treatment of non-participants, in the same way that such commitments provide regulatory comfort for patent pools.

In sum, a range of other commercial non-discrimination arrangements can provide insight into the open source license. Common carrier obligations provide a particularly salient analogy to open source licenses, and the reasons for imposing such obligations in the common carrier context can shed light on the motivation that licensors may have for making open source commitments. But economic rationales underlying other non-discrimination regimes, such

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173 Other requirements in open source licenses have similarly provided shields against antitrust liability. In *Wallace v. International Business Machines Corp.*, 467 F.3d 1104, 1107 (7th Cir. 2006), the court held that the fact that "the GPL keeps price low forever" meant that the plaintiff could not sustain an action for predatory pricing.

174 *Cf.* Timothy S. Simcoe, *Open Standards and Intellectual Property Rights*, *in* OPEN INNOVATION: RESEARCHING A NEW PARADIGM 174 (Henry Chesbrough et al. eds., 2008) ("The open-source licensing model . . . is a logical extension of royalty free patent pooling.").

175 *See* U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 28–30 (1995) [hereinafter ANTITRUST GUIDELINES FOR IP LICENSING], http://www.justice.gov/sites/default/files/atr/legacy/2006/04/27/0558.pdf.

176 *See, e.g.*, Letter from Joel I. Klein, Acting Assistant Attorney Gen., U.S. Dep't of Justice, to Gerrard R. Beeney, Partner, Sullivan & Cromwell 10–11 (June 26, 1997), http://www.usdoj.gov/atr/public/busreview/215742.pdf; Letter from Thomas O. Barnett, Assistant Attorney Gen., U.S. Dep't of Justice, to William F. Dolan & Geoffrey Oliver, Partners, Jones Day 8–11 (Oct. 21, 2008), http://www.justice.gov/atr/public/busreview/238429.htm; *see also* ANTITRUST GUIDELINES FOR IP LICENSING, *supra* note 175, at 28 ("[E]xclusion from cross-licensing and pooling arrangements among parties that collectively possess market power may, under some circumstances, harm competition.").

as standard-setting organizations and patent pools, can also provide similar insight: non-discrimination commitments have economic as well as moral force, and an analysis of the interpretation and enforcement of the open source non-discriminatory assurances should embrace both of these aspects.

The open source non-discrimination commitment may be a promise of political and social neutrality, and an invitation for all users and groups to join the open source community. At the same time, the commitment is also a statement of economic intentions and an assurance that all potential licensees—without exception—will be able to receive a license under the same open source terms. Rather than a vow to bring all groups into the open source tent, the statement can be seen as a disinterested assurance that the copyright holder will make the same intellectual property rights available to all third parties, without partiality or discrimination.[177] Commercial enterprises can direct the impact of this statement in order to make profitable commitments, encourage software adoption, or attempt to escape regulatory scrutiny. The next Part applies this interpretation of the non-discrimination commitment, and this understanding of its economic effects, to examine particular debates and provisions in open source licenses. This analysis will suggest directions of interpretation that are consistent with this economic understanding of the non-discrimination commitment and the commercial motivations for adopting such arrangements.

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177 This understanding can explain the reluctance of open source communities to adopt the "disparate impact" interpretation of the non-discrimination commitment. *See supra* text accompanying notes 112–16. Under the approach proposed by this Article, non-discrimination only means that the license will be available on the same terms to all, even though some of the terms may burden the participation of specific groups. At the same time, this economic understanding also undermines complaints in the open source community that FRAND commitments, which require the payment of royalties, discriminate against open source communities that are unable to make such payments and, as such, do not satisfy the non-discrimination prong of the FRAND commitment. *See, e.g.*, FREE SOFTWARE FOUND. EUR., FSFE RESPONSE TO CONSULTATION ON PATENTS AND STANDARDS: A MODERN FRAMEWORK FOR STANDARDISATION INVOLVING INTELLECTUAL PROPERTY RIGHTS (2015), http://fsfe.org/activities/os/20150213.EC-patents-standards-consultation.FSFEresponse.pdf (stating the FRAND terms "typically discriminate against . . . Free Software" since they "permit some business models, while making others infeasible"); Richard Stallman, *Stallman: 'Patent Licenses Discriminate'*, ZDNET (Apr. 23, 2002 12:00 AM), http://www.zdnet.com/article/stallman-patent-licenses-discriminate. According to the approach proposed by this Article, FRAND licenses are not discriminatory since they make similar terms available to all, without partiality, regardless of whether such terms make it difficult for the open source community to enjoy such licenses. In the same manner, the GPL is available to all licensees, even though it may burden the participation of certain commercial entities in the open source community. *See supra* text accompanying notes 108–11.

III. THE PROBLEM OF TERMINATION RIGHTS

This Part applies the non-discrimination principle to interpret a range of termination clauses in open source licenses. Termination clauses are a standard component of ordinary commercial agreements, where the contracting parties specify how and when their relationship will come to an end. But open source licenses are not ordinary agreements. The non-discrimination principle envisions licenses that are granted, almost automatically, to all willing licensees. If, however, the technology owner retains the freedom to terminate the agreement, then such open access commitments can be sidestepped. Broad termination provisions allow discrimination to enter through the back door: a rights holder that is unhappy with a specific licensee may not be able to prevent the initial automatic grant of a license, but can instead try to revoke those rights at a later time. As such, termination provisions that are conventional in ordinary settings can be alien when imported into an open source license.

Other open access regimes have also recognized the problems posed by termination rights. At common law, for example, innkeepers could not arbitrarily put out guests,[178] and common carrier telephone companies could not unjustifiably terminate the service of specific customers.[179] In the field of intellectual property, and as discussed in more detail below, recent litigation has raised the question of when patent licenses made under FRAND commitments may be terminated.[180] This does not mean that open access regimes have eliminated the ability for a common carrier to terminate service. Innkeepers have been allowed to exclude disruptive or disorderly guests, and may refuse to serve those that are unwilling to pay.[181] Railroads "have no obligation to allow passengers to carry bombs on board, nor need they permit passengers to stand in the aisles if all seats are taken."[182] Even public utilities, typically subject to strict non-discrimination requirements, are often permitted to disconnect service for nonpaying customers.[183] In general, while a common carrier's right to terminate service has been restricted, the flexibility of this constraint

178 *See Innkeeper's Right to Exclude or Eject Guests*, 7 FORDHAM L. REV. 417, 431–34 (1938), http://ir.lawnet.fordham.edu/flr/vol7/iss3/6.

179 *See, e.g.*, Nadel v. N.Y. Tel. Co., 170 N.Y.S.2d 95 (Sup. Ct. 1957); *see also* Note, *The Duty of a Public Utility to Render Adequate Service: Its Scope and Enforcement*, 62 COLUM. L. REV. 312, 323 (1962).

180 *See* sources cited *infra* note 236.

181 *Innkeeper's Right to Exclude or Eject Guests*, *supra* note 178, at 433–34.

182 Verizon v. FCC, 740 F.3d 623, 657 (D.C. Cir. 2014).

183 Jim Rossi, *The Common Law "Duty to Serve" and Protection of Consumers in an Age of Competitive Retail Public Utility Restructuring*, 51 VAND. L. REV. 1233, 1260 (1998).

has depended on the nature of the services provided, the public's reliance on these services, and the "changing technology and the evolving regulatory landscape."[184]

Many open source licenses do contain termination provisions. Indeed, termination can be central to the enforcement of open source license conditions.[185] Nevertheless, the scope of these provisions is limited. The Free Software Definition itself acknowledges that broad termination provisions can be problematic in the context of open licensing. According to the Free Software Definition, the rights granted under a license "must be permanent and irrevocable as long as [the licensee] do[es] nothing wrong."[186] As such, the Free Software Definition does not permit licenses which grant the copyright holder "the power to revoke the license, or retroactively add restrictions to its terms, without [the licensee] doing anything wrong to give cause."[187] Following this principle, the Free Software Foundation has withheld approval from licenses that include liberal termination rights.[188]

While the Free Software Definition recognizes the problems posed by termination clauses, its assessment is insufficiently nuanced to provide useful guidance in interpreting actual license provisions. The Free Software Definition does not explain why a "wrong" should justify license termination in an open access regime, or distinguish between the kind and degree of wrongs that would or would not warrant termination. Indeed, as shown below, the determination of whether a licensee has done something "wrong" may presuppose certain values that may be inconsistent with the principle of non-discrimination.[189]

Broadening our inquiry in the Sections that follow beyond the text of the license itself, termination rights can be provided by statute or judicial doctrine, and these rights may be invoked regardless of whether the text of the license itself satisfies the requirements of "openness" or

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184 Cellco P'ship v. FCC, 700 F.3d 534, 546 (D.C. Cir. 2012); *cf.* Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738, 19,752–53 (Apr. 13, 2015) (codified at 47 C.F.R. pts. 1, 8, 20) (stating that the rule against blocking online content "applies to transmissions of lawful content and does not prevent or restrict a broadband provider from refusing to transmit unlawful material, such as child pornography or copyright-infringing materials").

185 *See, e.g.*, BRADLEY M. KUHN ET AL., COPYLEFT AND THE GNU GENERAL PUBLIC LICENSE: A COMPREHENSIVE TUTORIAL AND GUIDE 92 (2015), https://copyleft.org/guide/comprehensive-gpl-guide.pdf (stating that the termination provisions of § 4 of the GPL "ensures" enforcement).

186 *What Is Free Software?*, *supra* note 57.

187 *Id.* Debian has also acknowledged the potential difficulties posed by termination rights. The colorfully-named "Tentacles of Evil" test is one of the measures used by Debian in determining whether a license is free. The test looks to the possibility that an "evil" author will revoke previously granted rights. *See DFSG and Software License FAQ (Draft)*, *supra* note 112.

188 *Various Licenses and Comments About Them*, *supra* note 62 (listing certain licenses as "nonfree").

189 *See infra* text accompanying notes 235–36.

"freedom." The Free Software Definition does not provide direction in applying such generally applicable statutes and doctrines in the context of the open source non-discrimination regime.

This Part discusses four specific termination provisions and doctrines in existing free and open source licenses. To date, commentary to and interpretation of these termination regimes has ignored whether and to what extent these provisions conflict with the fundamental principles of non-discrimination that underlie open source licensing.[190] This Part analyzes these four termination regimes within the broader setting of commercial non-discrimination commitments, and in light of the specific incentives motivating commercial licensors to provide the open source non-discrimination assurance. The analysis provides useful tools for the interpretation and application of termination regimes in the context of open source licensing.

A. *The BSD Ambiguity*

The BSD license, like other popular permissive licenses, is short and succinct.[191] In a few short paragraphs the BSD license provides users with expansive licensing rights while imposing few reciprocal obligations.[192] What the license gains in simplicity, however, it may lose in clarity. Indeed, the legal precision of the grant plays a secondary role in the BSD license.[193] Rather, the BSD license focuses on disclaiming liability and ensuring proper credit and attribution—concerns which seem to grow out of the academic origins of the license.[194] As a consequence, the BSD leaves the scope of the granted rights somewhat ambiguous.[195] In addition, and more importantly for this discussion, the BSD license does not contain any termination provisions at all.

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190 *See, e.g.*, David McGowan, *Legal Implications of Open-Source Software*, 2001 U. ILL. L. REV. 241, 298 (2001) (analyzing the termination of open source licenses); ROSEN, *supra* note 14, at 127 (considering mechanisms for terminating the GPL); Brett Smith, *A Quick Guide to GPLv3*, GNU, https://www.gnu.org/licenses/quick-guide-gplv3.html (last updated Nov. 8, 2014) (explaining the revisions to the termination provisions in GPLv3).

191 *BSD License*, *supra* note 88.

192 *Id.*

193 For example, the BSD license somewhat confusingly does not explicitly provide the rights to "reproduce" or "modify" the licensed work, though these rights may be implied by the license text. *See* ROSEN, *supra* note 14, at 78. Similarly, the BSD license does not expressly state whether the license includes a grant of patent rights. *Id.* at 79. It is also possible to interpret the ambiguous language of the BSD license as requiring licensors to provide source code together with their distributions of the binary code, an understanding that would be wholly inconsistent with the generally accepted interpretation of the license. *See* MEEKER, THE OPEN SOURCE ALTERNATIVE, *supra* note 73, at 45.

194 *See* WEBER, *supra* note 13, at 40. For a brief discussion about the academic origins of the BSD license, see ROSEN, *supra* note 14, at 73–75.

195 *See* discussion *supra* note 193; *see also* WEBER, *supra* note 13, at 40.

How should the lack of termination provisions in an open source license be interpreted? One approach may be to regard the open source license as a contract, subject to ordinary principles of contract interpretation. In a number of jurisdictions, contracts of unspecified duration, including copyright licenses, may be terminated by either side at will.[196] Accordingly, the absence of any termination provisions in the BSD license may indicate that the license can be terminated by the copyright holder at any time. An alternative approach is to regard the BSD as a "bare license"[197]—a grant of copyright permissions that does not actually rise to the level of a contract and is revocable at will[198]—which is simply a different route to the same conclusion. According to black letter law, non-exclusive licenses that are not supported by consideration (thus not contracts) are revocable by the licensor at any time.[199] Under either perspective, whether an open source license is regarded as a contract or not, the rights granted under BSD license appear ephemeral, subject to capricious withdrawal by the licensor at any time.[200]

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196 *See* Walthal v. Rusk, 172 F.3d 481, 485 (7th Cir. 1999) (holding that a non-exclusive copyright license without a termination date could be terminated at will); Trient Partners I Ltd. v. Blockbuster Entm't Corp., 83 F.3d 704, 709 (5th Cir. 1996) (holding that a license agreement of indefinite duration was terminable at will under Texas law); *see also* Rano v. Sipa Press, Inc., 987 F.2d 580, 585 (9th Cir. 1993) (holding that California law would permit a copyright license of indeterminate duration to be terminated at will, if not for contrary federal law requiring a minimum thirty-five year term). The Ninth Circuit's interpretation of federal law in *Rano* as requiring a minimum thirty-five year term has been criticized by other courts, and at least one district court in the Ninth Circuit has stated that it would not follow that decision. *See, e.g.*, Hackett v. Feeney, No. 2:09-cv-02075-RLH-LRL, 2011 WL 4007531, at *9 n.3 (D. Nev. Sept. 8, 2011).

197 Some commentators have argued that open source licenses do not necessarily constitute contractual agreements. Rather, the terms of the license are only enforceable because those terms constitute the only permission for the user to perform activities that would otherwise be prohibited under copyright law. This perspective has the advantage of doing away with prerequisites typically necessary to enforce a contract, such as doctrines of offer, acceptance, and consideration. *See, e.g.*, ROSEN, *supra* note 14, at 53; Eben Moglen, *Enforcing the GNU GPL*, GNU (Sept. 10, 2001), http://www.gnu.org/philosophy/enforcing-gpl.html.

198 *See Bare License*, BLACK'S LAW DICTIONARY (10th ed. 2014).

199 3 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 10.02(B)(5) (2015) ("[N]onexclusive licenses are revocable absent consideration."); *see also* Lulirama Ltd. v. Axcess Broad. Servs., Inc. 128 F.3d 872, 882 (5th Cir. 1997) (holding that "a nonexclusive license supported by consideration is a contract," so it is not revocable).

200 The termination-at will problem has been noted by previous commentators. *See* ROSEN, *supra* note 14, at 56; Lydia Pallas Loren, *Building a Reliable Semicommons of Creative Works: Enforcement of Creative Commons Licenses and Limited Abandonment of Copyright*, 14 GEO. MASON L. REV. 271, 317 (2007). Although most (if not all) open source licenses are of unspecified duration (like the BSD), or are not supported by consideration, the termination at will problem is less urgent in licenses that otherwise address the option of termination in some context (like the GPL). *See, e.g.*, Automation by Design, Inc. v. Raybestos Prods. Co., 463 F.3d 749 (7th Cir. 2006) (holding that a list of termination provisions in a license agreement was exclusive and, as such, the license was not terminable at will).

Such black letter law, however, is inconsistent with the foundational non-discrimination principle of open source licenses. Allowing the BSD license to be terminable at will would permit licensors to disadvantage particular licensees at any time by revoking their license grants.[201] The BSD license in particular was conceived as facilitating the donation of university-created intellectual property to the public, enabling the creation of a public "commons" of software.[202] Allowing the BSD license to be terminable at will would undermine those goals, since the contemplated software commons would come to be seen as a fragile, transient resource, unsuitable for establishing significant and long-term projects. Licensors would be able to act strategically—initially contributing software to the commons, but later withdrawing that contribution when the software gains market share or after the software has attracted a significant developer community. Licensors holding market power would also be able to discriminate against their competitors by denying them the benefits of the license.

The perspective of the non-discrimination commitment clarifies the irrelevance of the termination at will doctrines for the open source license. Understanding the open source license as an ordinary contract or license introduced doctrines that facilitate the termination of those arrangements. But the open source license should be interpreted in terms of their foundational principles—including non-discrimination—as set forth in the Definitions.[203] As shown earlier, common carriers and other entities subject to non-discrimination obligations are typically limited in their ability to terminate their service commitments.[204] Indeed, common carriers have typically been required to demonstrate a "neutral, rational basis"[205] for "material differences in the service offered"[206] in order to discriminate between customers, and cannot

201 *See* McGowan, *supra* note 190, at 299 ("At least in theory, the potential ability to terminate at will increases the risk of opportunistic behavior by rights holders.").

202 *See* WEBER, *supra* note 13, at 40.

203 See *supra* Section I.B for doctrinal mechanisms that would facilitate the use of the Definitions in open source licenses.

204 *See supra* notes 139–51 and accompanying text.

205 MCI Telecomms. Corp. v. FCC, 917 F.2d 30, 41 (D.C. Cir. 1990) (holding that discrimination by common carriers under the Telecommunications Act will be lawful only if "there is a neutral, rational basis" underlying the disparity (quoting Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 737 F.2d 1095, 1133 (D.C. Cir. 1984))); *see also* Carlin Commc'ns, Inc. v. Mountain States Tel. & Tel. Co., 827 F.2d 1291 (9th Cir. 1987) (analyzing whether the termination of an adult telephone service was "reasonable" discrimination); AirTouch Paging of Cal. v. Pac. Bell, No. C–98–2216 MHP, 1999 WL 33732597, at *15 (N.D. Cal. May 10, 1999) (holding that differences in termination clauses showed a prima facie case of unjustified discrimination under the Telecommunications Act).

206 Sea-Land Serv., Inc. v. Danzig, 211 F.3d 1373, 1383 (Fed. Cir. 2000) (applying the statute that prohibited discrimination between military and private shippers, and examining "material differences in the service offered").

distinguish between entities "based primarily on considerations relating to the[ir] identity or competitive position."[207] Ordinary doctrines of contract and license termination are intended for individuals and businesses that have the freedom to enter into and disengage from contractual relationships.[208] The open source license, however, is designed to specifically undermine that freedom of contract, with the licensor surrendering its ability to choose between or discriminate against any individual partner.

The BSD and similar licenses should not be revocable or terminable at will, and legal doctrines of contract and licensing should not be imported in order to produce that interpretation. Rather, the interpretation of such licenses should be grounded in the fundamental non-discrimination commitment underlying the license. As in common carrier regimes, a BSD licensor should be required to establish a "neutral, rational basis" (e.g., material breach of the license terms) in order to terminate the license. This understanding would be in line with broadly accepted expectations of how open source licenses operate, would be consistent with other non-discrimination regimes, and would also further the goals of the license by facilitating the growth of the intellectual property commons.

B. *The GPL Death Penalty*

The second version of the GPL is not a terse document. Introduced by a discursive preamble that lays out the philosophy of free software, this version of the GPL continues to ramble over several pages.[209] The license, however, contains a termination provision that is short and to the point: "[a]ny attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License."[210] As interpreted literally, the clause provides for the automatic termination of all rights upon any violation of the

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207 L. T. Barringer & Co. v. United States, 319 U.S. 1, 6 (1943) (a determination of unjustified discrimination under the Interstate Commerce Act requires an examination of "[w]hether those circumstances and conditions are sufficiently dissimilar to justify a difference in rates, or whether, on the other hand, the difference in rates constitutes an unjust discrimination because based primarily on considerations relating to the identity or competitive position of the particular shipper rather than to circumstances attending the transportation service"); *see also* Postal Tel.-Cable Co. v. Associated Press, 127 N.E. 256, 258 (N.Y. 1920) (Cardozo, J.) ("The question remains whether discrimination has been excused by proof of dissimilar conditions.").

208 Baldwin Piano, Inc. v. Deutsche Wurlitzer GmbH, 392 F.3d 881, 885 (7th Cir. 2004) (stating that the doctrine of terminability "reflects a belief that most businesses don't want to be locked into a perpetual relation" and, as such, "allows separation in the business world").

209 *See* GPLv2, *supra* note 112.

210 *Id.* § 4.

license, regardless of whether the violation is material or minor, regardless of whether the violation is intentional or inadvertent, and regardless of whether the licensee moves to cure the violation when it comes to attention. This interpretation of the license has been referred to as the "GPLv2 death penalty"—an allusion to the severe consequences that result from any breach of the license.[211] A number of other open source licenses contain analogous termination provisions that, again when interpreted literally, provide for similarly harsh penalties upon any license violation.[212]

Commentary has reinforced this literal interpretation of the license text. For example, the Free Software Foundation has stated that "[u]nder GPLv2, if you violated the license in any way, your rights were automatically and permanently lost."[213] This interpretation has also been invoked in litigation. Starting in 2007, several copyright holders of the "BusyBox" software program filed suit against a number of defendants, including Verizon, Samsung, and Best Buy.[214] The BusyBox software was licensed under the second version of the GPL, and the various lawsuits alleged that the defendants had failed to comply with the terms of the license.[215] The complaints in all these lawsuits referenced the termination provision of the GPL, interpreting it to mean that non-compliance meant immediate and automatic loss of all rights

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211 Jonathan Corbet, *Android and the GPLv2 Death Penalty*, LWN (Aug. 15, 2011), https://lwn.net/Articles/455013.

212 *See, e.g.*, *Attribution 3.0 United States*, § 7(a), CREATIVE COMMONS, https://creativecommons.org/licenses/by/3.0/us/legalcode (last visited Oct. 31, 2015) ("This License and the rights granted hereunder will terminate automatically upon any breach by You of the terms of this License."); *GNU Free Documentation License 1.2*, § 9, GNU, http://www.gnu.org/licenses/old-licenses/fdl-1.2.en.html (last updated Apr. 12, 2014) ("Any other attempt to copy, modify, sublicense or distribute the Document is void, and will automatically terminate your rights under this License.").

213 Smith, *supra* note 190. This interpretation of the second version of the GPL was advanced as a reason for preferring the third version of the license, which incorporated more relaxed termination provisions. *Id.* Similarly, the Software Freedom Law Center has stated that "[i]n the case of GPLv2, this termination is automatic, while under GPLv3 the party breaching the license's terms may be able to cure before termination." Eben Moglen & Mishi Choudhary, *Software Freedom Law Center Guide to GPL Compliance: 2nd Edition*, SOFTWARE FREEDOM L. CTR. (Oct. 31, 2014), https://www.softwarefreedom.org/resources/2014/SFLC-Guide_to_GPL_Compliance_2d_ed.html; *see also* ST. LAURENT, *supra* note 13, at 42 ("In the event that a licensee violates any term of the GPL by, for example, distributing a proprietary derivative work based on GPL-licensed code, all rights under the GPL are voided."). Similar interpretations of the termination provisions of the Creative Commons 3.0 suite of licenses were advanced as a reason for moving to the more lenient termination provisions in the Creative Commons 4.0 suite of licenses. *See Version 4*, CREATIVE COMMONS, https://wiki.creativecommons.org/Version_4 (last updated Feb. 18, 2014).

214 Ryan Paul, *Software Freedom Law Center Files First US GPL Infringement Suit*, ARS TECHNICA (Sept. 21, 2007, 2:10 PM), http://arstechnica.com/information-technology/2007/09/software-freedom-law-center-files-first-gpl-infringement-suit.

215 *Id.*

under the license.[216] This literal interpretation of the license also seems to be consistent with case law.[217]

Notwithstanding this literal understanding of the license terms, the harshest constructions of the termination provisions of the GPL have not been enforced in practice. Open source communities have tended to pursue license education and compliance rather than seek legal damages for breach.[218] Licensees have typically been provided with opportunities to cure license violations and bring products into compliance, and have not faced lawsuits immediately upon breach of the license.[219] Given this tendency, the most draconian interpretations of the "GPLv2 death penalty" have not (yet) been asserted in court. Even so, fears have persisted that the strict GPL termination provisions could be used in the context of private enforcement, where the commercial advantage of the licensor could trump the values of the open source community.[220]

The literal understanding of the GPL termination provisions again rests on the assumption that the license should function in a manner similar to standard contracts and licenses. But this approach does not reflect the non-discrimination foundations of the open source licensing

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216 *See, e.g.*, Complaint ¶ 14, Andersen v. Monsoon Multimedia, Inc., No. 1:07-CV-08205, 2007 WL 2777698 (S.D.N.Y. Sept. 19, 2007) (No. 1:07-CV-08205). Monsoon Media was the first defendant in the BusyBox lawsuits, and subsequent complaints followed the same template. *See* Amended Complaint ¶ 32, XimpleWare Corp. v. Versata Software, Inc., No. 13–cv–05160-SI, 2014 WL 6681163 (N.D. Cal. Nov. 25, 2014) (No. 3:13-cv-05160-SI), 2013 WL 8599692 ("The GPL requires strict compliance, and, under its Section 4, any failure to comply with *any* of the GPL's multiple conditions means there is no license granted."). To date, there have been no judicial decisions in the United States interpreting this provision of the GPL.

217 *See, e.g.*, Frankel v. Stein & Day, Inc., 470 F. Supp. 209, 213 (S.D.N.Y. 1979), *aff'd mem.*, 646 F.2d 560 (2d Cir. 1980) ("[S]ince the plain language of the license agreement specifies that reversion 'shall automatically' result upon the publisher's failure to perform the obligation in question here, we believe that the contract must be complied with literally and that notions of materiality are irrelevant."); *see also* Fru-Con Constr. Corp. v. Sacramento Mun. Util. Dist., No. CIV. S-05-583 LKK/GGH, 2007 WL 1791699, at *13 (E.D. Cal. June 15, 2007) (refusing to insert a materiality requirement into contractual termination provisions); Quantum Commc'ns Corp. v. Star Broad., Inc., 473 F. Supp. 2d 1249, 1265 (S.D. Fla. 2007) ("[T]he plain language of the agreement . . . contains no requirement that any breach be 'material.'"). *But see* UHS-Qualicare, Inc. v. Gulf Coast Cmty. Hosp., Inc., 525 So. 2d 746, 756 (Miss. 1987) (inserting a requirement of "materiality" in a contractual provision allowing termination for breach, and "regard[ing] it wholly unreasonable that the language of a twenty year, multimillion dollar contract, be read to provide that any failure (whether material or not) to keep, observe or perform, etc. will suffice to trigger the termination clause").

218 *See, e.g.*, KUHN ET AL., *supra* note 185, at 92–94 (describing initial violations of the GPL as an "educational problem" and stating that the goal of enforcement efforts is to "encourage violators to join the cooperative community of software sharing, so we want to open our hand in friendship"); Joshua Gay, *Statement in Support of Software Freedom Conservancy and Christoph Hellwig, GPL Enforcement Lawsuit*, FREE SOFTWARE FOUND. (Mar. 5, 2015, 12:48 PM), http://www.fsf.org/news/conservancy-and-christoph-hellwig-gpl-enforcement-lawsuit (stating that community "enforcement[] favor[s] education and collaboration as a means of helping others properly distribute free software. Lawsuits are always a last resort").

219 Gay, *supra* note 218.

220 Corbet, *supra* note 211.

relationship. Allowing termination for minor, curable violations would again allow licensors to discriminate against specific licensees. Powerful licensors (or groups of licensors) could exploit the literal terms of the GPL to disadvantage competitors in situations where violations of the license were inconsequential or inadvertent. Permitting termination of the license in these circumstances would be inconsistent with the licensor's original non-discrimination commitments, as described in the Definitions, and conflict with the original commercial understandings underlying the licensing relationship.

As noted earlier, courts have interpreted non-discrimination arrangements to restrict the right of service providers to terminate the relationship and refuse to provide service.[221] Expressing these principles in the context of the open source license, licensors should only be permitted to exercise termination rights in circumstances of material and uncured breach of the license conditions. Restricting the licensor's termination rights in this manner would be consistent with its original commitment to grant licenses on a non-discriminatory basis to all willing licensees.

C. *Defensive Termination*

Supporters of free and open source software have regularly opposed software patents, since patents restrict the same freedoms that open source software makes available.[222] For example, in a recent joint brief submitted to the Supreme Court, the Open Source Initiative and the Free Software Foundation asserted "that patenting has had no positive effect on innovation in software," while history has shown that software innovation "has occurred first in communities of free sharing, where patenting has been systematically discouraged."[223] When the Supreme Court invalidated the patents at issue in that case, striking down a class of software patents, the Free Software Foundation opined that the decision was a "meaningful step in the right direction," but that it did not go far enough.[224]

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221 *See supra* notes 205–07 and accompanying text.

222 MEEKER, THE OPEN SOURCE ALTERNATIVE, *supra* note 73, at 89 ("The open source community is strongly set against the existence of software patents.").

223 Brief of Software Freedom Law Center, Free Software Foundation, and Open Source Initiative as Amici Curiae in Support of Respondents at 14–15, Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014) (No. 13-298), 2014 WL 828022, at 14–15.

224 *US Supreme Court Makes the Right Decision to Nix Alice Corp. Patent, But More Work Needed to End Software Patents for Good*, FREE SOFTWARE FOUND. (June 19, 2014, 4:55 PM), http://www.fsf.org/news/fsf-statement-on-alice-corp-v-cls-bank.

Reflecting this hostility to software patents, a number of open source licenses contain so-called "defensive termination" provisions.[225] Briefly, these provisions state that a licensee cannot at the same time benefit from open source software and also bring patent suits that prevent others from enjoying that software.[226] A licensee that does so may find her open source license terminated. The popular Apache license contains an example of a defensive termination clause, and provides that the license may be terminated if the user asserts that the licensed work infringes a patent.[227] Other open source licenses, such as the Mozilla Public License[228] and the Artistic License,[229] contain similar provisions. The GPL family of licenses does not contain explicit defensive termination provisions, although some GPL provisions may work together to create a similar effect.[230]

The scope of "defensive termination" provisions can vary over a wide range. Some licenses provide for relatively narrow clauses, where termination is triggered only by patent infringement suits advanced specifically against the licensed software.[231] Other licenses contain provisions of more expansive scope, which are triggered by any patent assertions, regardless of whether such assertions are specifically directed against the licensed software.[232] Considering that proponents of open

225 Such provisions have also been referred to as "patent retaliation," or "patent defense" clauses. *See, e.g.*, MEEKER, OPEN (SOURCE) FOR BUSINESS, *supra* note 84, at 33, 151 (using the term "defensive termination"); ROSEN, *supra* note 14, at 289 (using the terms "patent defense provisions" and "defensive termination provisions"); Johns, *Opinion on Patent Retaliation*, FREE SOFTWARE FOUND. (Aug. 3, 2006), http://gplv3.fsf.org/patent-dd2.html (using the term "patent retaliation").

226 *See, e.g.*, MEEKER, OPEN (SOURCE) FOR BUSINESS, *supra* note 84 at 33, 151 (under a "defensive termination provision[,] [i]f the licensee asserts a patent, the licensee can lose rights under the open source license").

227 *See Apache License*, § 3, APACHE SOFTWARE FOUND., http://www.apache.org/licenses/LICENSE-2.0 (last visited Mar. 15, 2016) ("If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.").

228 *See Mozilla Public License: Version 2.0*, § 5.2, MOZILLA, https://www.mozilla.org/en-US/MPL/2.0 (last visited Oct. 31, 2015).

229 *See Artistic License 2.0*, § 13, OPEN SOURCE INITIATIVE, https://opensource.org/licenses/Artistic-2.0 (last visited Oct. 31, 2015).

230 *See* FREE SOFTWARE FOUND., GPLV3 THIRD DISCUSSION DRAFT RATIONALE 29 (2007), http://gplv3.fsf.org/gpl3-dd3-rationale.pdf ("Read together, sections 8, 10 and 11 establish a patent termination condition for GPLv3, the scope of which is no narrower than that of the Apache/EPL variety of retaliation clause.").

231 The defensive termination provision in the Apache license, for example, is limited to patent infringement suits concerning the licensed work. *See Apache License*, *supra* note 227.

232 *See, e.g.*, *IBM Public License Version 1.0 (IPL-1.0)*, § 7, OPEN SOURCE INITIATIVE, https://opensource.org/licenses/IPL-1.0 (last visited Oct. 31, 2015). Facebook's standard open source license contains a broad patent retaliation clause. *See* James Pearce, *Updating Our Open Source Patent Grant*, FACEBOOK (Apr. 10, 2015), https://code.facebook.com/posts/1639473982937255/

source software have typically opposed all software patents, debates regarding the scope of these provisions have concentrated on whether such clauses can effectively deter patent infringement suits against open source software.[233] In other words, such debates have tacitly assumed that the advancement of even an unrelated patent infringement suit constitutes legitimate grounds for terminating an open source license, with the only question being whether such broad termination provisions would effectively deter patent lawsuits.

Such reasoning, focused as it is on the impropriety of patent infringement lawsuits, fails to address whether such provisions accord with the non-discrimination principles of open source licensing. Consider the strategic use of such provisions: a commercial entity successfully encourages adoption of its software by making it available under an open source license that contains an expansive defensive termination provision. Since the license provides that any user that sues the commercial entity for any kind of patent infringement can find its license terminated, the commercial entity may be able to infringe the user's patents with impunity. So long as the user needs the licensed software, it may not be able to risk the license termination that could result from bringing a patent infringement suit against the licensor. In effect, the broad defensive termination provision allows the licensor to wield the threat of discriminatory termination against the user, and this threat may prevent the user from exercising its legitimate patent rights. This threat of discrimination may be especially problematic to the extent that the software's popularity is due to the commitment of non-discriminatory licensing, or to the extent the licensor has used the non-discrimination commitment to escape regulatory scrutiny.

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updating-our-open-source-patent-grant. Version 1.1 of the Mozilla Public License contained rather complex patent retaliation provisions that also provided for the termination of all patent licenses in the event of the assertion that "any software, hardware, or device . . . infringes any patent." *Mozilla Public License Version 1.1*, § 8.2(b), MOZILLA, https://www.mozilla.org/en-US/MPL/1.1 (last visited Mar. 15, 2016). These provisions were substantially simplified in the second version of the license, *see Mozilla Public License: Version 2.0*, *supra* note 228, § 5.2, though the revision process does not advance a rationale for these revisions other than to make it consistent with the patent termination provisions of the Apache license. *See About MPL 2.0: Revision Process and Changes FAQ*, ¶ 8, MOZILLA, https://www.mozilla.org/en-US/MPL/2.0/Revision-FAQ (last visited Mar. 15, 2016).

233 *See, e.g.*, FREE SOFTWARE FOUND., GPLv3 FIRST DISCUSSION DRAFT RATIONALE 3 (2006), http://gplv3.fsf.org/gpl-rationale-2006-01-16.pdf ("Our draft of GPLv3 makes clear that we do not entirely share the current enthusiasm of others in the free software community for including broad forms of patent retaliation in licenses. Theorists of patent retaliation have, in our view, overestimated the deterrent value of denying access to free software."); *see also* ROSEN, *supra* note 14, at 155 (stating that the value of a patent defense provision is that it "forces a potential patent litigant to think carefully before he or she sues a Participant for infringement").

This analysis shows that broad defensive termination provision may not accord with principles of non-discrimination, since the provider of open source software can use such provisions to discriminate against users for reasons unrelated to the licensed software itself. Analogously, some common carrier regimes expressly prohibit service providers from denying service based on disputes about collateral or unrelated matters.[234] In contrast, narrow defensive termination provisions can be consistent with the open source non-discrimination commitment. The assertion of patent claims specifically against the licensed software may hinder members of the community from using, improving, or distributing the software, and the licensor may have a legitimate interest in deterring such claims.

The significance of this analysis may lie in the recognition that, when analyzing a termination clause, the relevant question is not whether the licensee "has done something wrong."[235] The determination of whether an act is "wrong" must look to a set of values—here, the impropriety of software patents—that may be inconsistent with the principle of non-discrimination. Instead, the relevant inquiry should be whether the termination clause furthers goals of the underlying non-discrimination regime. For instance, clauses that allow for termination in the event of material breach serve the purposes of the open source license, since they prevent licensees from unfairly exploiting the rights provided under the license. In the same way, narrow defensive termination clauses prevent licensees from disturbing the open source ecosystem from which they benefit. In contrast, broad defensive termination provisions, although perhaps reflecting the proprieties of some parts of the open source community, allow licensors to discriminate against specific licensees for reasons unrelated to the open source license. As such, broad defensive termination provisions present a fundamental conflict with the basic principles of non-discrimination underlying the open source regime.[236]

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234 *See* J.Q.L., Annotation, *Right of Public Utility Corporation to Refuse Its Service Because of Collateral Matter Not Related to that Service*, 55 A.L.R. 771 (1928) (noting that case law uniformly holds that a public utility cannot refuse to render service because of some collateral matter not related to that service); *see also* Josephson v. Mountain Bell, 576 P.2d 850, 852 (Utah 1978) (prohibiting a telephone company from terminating service to collect a debt on an unrelated account, using the following analogy: "Suppose a man owes a common carrier, such as a bus company, a debt for freight it has hauled for him or his business. He wants to travel as a passenger and offers cash for his fare. The company refuses to sell him a ticket or carry him because he owes them a prior debt. In this refusal the carrier would violate its responsibility to the public to carry all who present themselves and pay the required fare").

235 *See supra* text accompanying note 189.

236 This analysis may also have impact in the context of FRAND licensing. Recent cases have raised, but not decided, the question of whether a defensive termination provision in a patent license agreement would be consistent with a party's obligation to provide a license on FRAND terms. For example, in the recent litigation between Microsoft and Motorola concerning

D. *Statutory Termination*

The Copyright Act of 1976 contains two provisions which allow authors to terminate prior grants or licenses.[237] These provisions were most famously invoked to terminate the original transfers of the copyrights in the Superman comic book character.[238] Joe Shuster and Jerry Siegel created the Superman character in the early 1930s.[239] In 1938, for the sum of $130, they assigned to Detective Comics the "exclusive right[s]" to Superman "to have and hold forever."[240] Superman went on to enjoy outsize success, but Siegel and Shuster saw little financial profit from his adventures.[241] Unhappy with their share of Superman's achievements, Siegel and Shuster filed several unsuccessful actions to annul the original assignment.[242] The Copyright Act of 1976, which granted authors the right to renegotiate earlier transfers of copyright,[243] provided yet another chance to recover the copyright in Superman.[244] The heirs and estates of Siegel and Shuster used the

FRAND licensing, Motorola argued that such provisions were consistent with a party's FRAND obligations. *See* Letter from Ralph H. Palumbo for Motorola re 843 Order on Motion for Summary Judgment, Order on Motion for Partial Summary Judgment, Order on Sealed Motion, Microsoft Corp. v. Motorola, Inc., No. C10–1823JLR, 2013 WL 6000017 (W.D. Wash. Nov. 12, 2013) (No. 2:10-cv-1823-JLR). Similar questions were raised by litigation between Apple and Motorola in the Southern District of California. *See* Jorge L. Contreras, *The Frand Wars: Who's on First?*, PATENTLY-O (Apr. 17, 2012), http://patentlyo.com/patent/2012/04/the-frand-wars-whos-on-first.html; *cf.* Michael A. Lindsay, Negotiating Royalty or Other License Terms Before the Standard Is Set 6–7 (May 13, 2009) (unpublished manuscript), http://www.dorsey.com/files/upload/lindsay_negotiating_royalties_AIPLA_spring09.pdf (describing a dispute at a standard setting organization concerning the scope of a "defensive suspension" clause in a license agreement). Aside from issues of contractual interpretation, defensive and reciprocal provisions in FRAND license agreements can raise antitrust issues. *See, e.g.*, Renata Hesse, Deputy Assistant Attorney Gen., Antitrust Div., U.S. Dep't of Justice, Remarks as Prepared for the ITU-T Patent Roundtable: Six "Small" Proposals for SSOs Before Lunch 9–10 (Oct. 10, 2012), http://www.justice.gov/atr/file/518951/download (stating that in order to "promote competition" FRAND-encumbered patents should be licensed "on a cash-only basis"—in other words, without any defensive or reciprocal obligations).

237 17 U.S.C. §§ 203, 304(c) (2012).

238 *See* DC Comics v. Pac. Pictures Corp., 545 F. App'x 678 (9th Cir. 2013); Larson v. Warner Bros. Entm't Inc., No. 2:04–cv–08776–ODW(RZx), 2013 WL 1688199 (C.D. Cal. Apr. 18, 2013). For a history of the Superman case, see generally MARC H. GREENBERG, COMIC ART, CREATIVITY AND THE LAW 81 (2014).

239 GREENBERG, *supra* note 238, at 81.

240 Siegel v. Warner Bros. Entm't Inc., 542 F. Supp. 2d 1098, 1107 (C.D. Cal. 2008) (alteration in original); GREENBERG, *supra* note 238, at 81.

241 GREENBERG, *supra* note 238, at 83 (describing Siegel and Shuster as "nearly destitute while the company [(to which they had assigned the copyright)] was making huge profits"); *see also Siegel*, 542 F. Supp. 2d at 1112–13.

242 GREENBERG, *supra* note 238, at 82–83; *see also Siegel*, 542 F. Supp. 2d at 1112.

243 Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended at 17 U.S.C. § 304(c)).

244 *Siegel*, 542 F. Supp. 2d at 1113–14.

provisions of the 1976 Act to terminate the original 1938 Superman copyright assignment, resulting in protracted litigation.[245]

Of these two statutory termination provisions, section 203 of the Copyright Act applies to works created after January 1, 1978,[246] and as such, is the most relevant to works made available under open source licenses.[247] Section 203 provides that authors may unilaterally terminate any "transfer or license of copyright or of any right under a copyright" during certain periods following the grant.[248] Upon such termination, the rights conveyed under the terminated grant revert to the author or her successors.[249] Most importantly for open source licenses, authors may not contract around the statutory termination provision because section 203(a)(5) expressly provides that "[t]ermination of the grant may be effected notwithstanding any agreement to the contrary."[250]

An author's successful exercise of his section 203 termination rights would pose difficulties for any open source project. Large open source projects are composed of the contributions of thousands of individual authors, and replacing the code of the terminating author could be a complicated task.[251] To date, for example, there have been approximately 11,800 individual contributors to the Linux kernel.[252] Each contributor provides code to the project under an open source license, but otherwise retains ownership of the copyright in the contribution.[253] As a result, the kernel as a whole is owned by thousands of authors. If any one of those authors chose to exercise her statutory termination rights, the contributed code would need to be removed and

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245 *Id.*

246 17 U.S.C. § 203(a) (providing for termination rights for a "transfer or license of copyright . . . executed by the author on or after January 1, 1978").

247 17 U.S.C. § 304(c) provides for the termination of transfers "executed before January 1, 1978." This latter provision is of little significance to open source software, given that the free and open source software movement only traces its roots back to the 1990s. *See* discussion *supra* Section I.A.

248 17 U.S.C. § 203(a).

249 *Id.* § 203(b).

250 *Id.* § 203(a)(5).

251 McGowan, *supra* note 190, at 259 ("Under the open-source model, programs can easily become (indeed are designed to be) quilts of code from many different authors, each of whom own rights as to which the others are licensees, and each of whom uses code subject" to the open source license).

252 *See* JONATHAN CORBET ET AL., LINUX FOUND., LINUX KERNEL DEVELOPMENT: HOW FAST IS IT GOING, WHO IS DOING IT, WHAT ARE THEY DOING AND WHO IS SPONSORING THE WORK 2 (2015), http://www.linuxfoundation.org/publications/linux-foundation/who-writes-linux-2015.

253 Daniel Chapman, *A Guide to the Kernel Development Process*, § 1, LINUX FOUND. (May 13, 2011, 3:22 AM), http://www.linuxfoundation.org/content/1-guide-kernel-development-process.

replaced.[254] It may prove difficult to disentangle the terminated work from later layers of code. The exercise of statutory termination rights by a significant contributor would not only wreak havoc with the practices of the project itself, but would also undermine the normative understandings of the community.

Scholarship has addressed the challenges that section 203 poses for open communities, but mostly in the context of open content (such as text or visual media), rather than software. Some have suggested that such issues could be resolving by viewing open licenses as a "limited abandonment" of copyright.[255] Such "abandonment" would reflect both the author's original intention of dedicating her works to the public, as well as the public's expectation of continued freedom to use that work, and would constrain an author's later attempts to reclaim rights under the statutory termination provisions.[256] Other scholars have proposed revising the statutory termination provisions to specifically accommodate open licensing.[257]

To a large extent, the allegations that section 203 presents difficulties for open source are mistaken, and such confusion results from a misunderstanding of the non-discriminatory nature of open source licenses. Section 203 provides that the copyright holder can terminate a license during specified periods measured from the date of the license grant,[258] but under many open source licenses, each distribution of the licensed work results in a new license grant. The Creative Commons licenses, for example, provide that "[e]very recipient of the Licensed Material automatically receives an offer from the Licensor to exercise the Licensed Rights."[259] Similarly, the GPL provides that "[e]ach time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License."[260] In other words, by releasing material under these licenses into the wild, the copyright

254 Section 203(b)(1) would dull the harsh results of any termination, since that provision would permit the continued utilization of derivative works created prior to the termination. Nonetheless, the creation of new derivative works would be prohibited—a significant difficulty for a software project that requires continual development and maintenance.

255 Loren, *supra* note 200.

256 *Id.*

257 *See, e.g.*, Timothy K. Armstrong, *Shrinking the Commons: Termination of Copyright Licenses and Transfers for the Benefit of the Public*, 47 HARV. J. ON LEGIS. 359 (2010).

258 *See* 17 U.S.C. § 203(a) (2012).

259 *Attribution 4.0 International*, *supra* note 103, § 2(a)(5)(A).

260 GPLv3, *supra* note 95, § 10; *accord Apache License*, *supra* note 227, § 2 (providing that "each Contributor" to the work grants the rights provided under the license); *Mozilla Public License: Version 2.0*, *supra* note 228, § 2.1 (same); *see also* MEEKER, THE OPEN SOURCE ALTERNATIVE, *supra* note 73, at 29 ("Most open source licenses are direct grants from the author to anyone who wishes to take the software under that license."). Other shorter and less sophisticated open source licenses are less clear on this point. *See* ROSEN, *supra* note 14, at 87.

holder begins making a series of license grants that she is powerless to stop.[261] Each subsequent recipient of the material benefits from a new license, where such new license is made on a new date of distribution. Even if the licensor were able to marshal the statutory termination provisions to terminate the earlier grants, she would also be required to subsequently terminate each later grant at a later date. In the interim, the remaining licensees would retain the rights to continue distributing the material, with each such subsequent distribution compelling the licensor to make new license grants. In other words, the open source license grant is indiscriminate in the sense that the copyright holder loses the ability to choose the beneficiaries of the license. Given the non-discriminatory license grant, the problems posed by the statutory termination provisions are minimized or easily sidestepped; the licensor can never terminate all the licenses, and any terminated licensee can receive new copies of the software from another licensee.

IV. CONCLUSION: LIFE AFTER TERMINATION

What is the effect of terminating an open source license? Outside the open source context, the question invites the hornbook answer: the licensee loses its rights to the work, and further exploitation of the work could be considered infringement.[262] Commentary and interpretation of open source licenses have taken this approach without exception.

Yet, the non-discrimination principle hints at another confusing possibility. What prevents the licensee—after having its rights terminated—from simply obtaining another copy of the licensed work and automatically receiving another license? This opportunity arises from the non-discriminatory nature of the open source license: Since the licensor is neither permitted nor able to deny a license to any willing licensee, how can it prevent a previously terminated licensee from obtaining another license? Among the prominent open source licenses, only the third version of the GPL expressly clarifies that a previously terminated licensee is not eligible to receive another automatic license.[263] Even that clarification, it seems, was added as an afterthought.[264] If a court would not stomach such clear sidestepping of the termination provisions, more complex situations could also present themselves: Perhaps the terminated licensee cannot obtain another

261 *See supra* notes 154–55 and accompanying text.

262 *See* NIMMER & NIMMER, *supra* note 199, § 10.15(A).

263 GPLv3, *supra* note 95, § 8 ("If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material . . . .").

264 The provision was added in the fourth (and penultimate) draft of the license. *See* GPLV3 FINAL DISCUSSION DRAFT RATIONALE, *supra* note 112, at 26 n.19.

automatic license to the original work, but as software is ever evolving, it could obtain an automatic license to a later version of the work? Or perhaps the terminated licensee could circumvent the termination provisions altogether by having a wholly-owned corporate affiliate receive the automatic license?

These problems illustrate the uniqueness of the open source non-discrimination commitment. In ordinary license negotiations, the copyright owner retains the prerogative to deny licenses, and can certainly refuse to license a prior infringer. But the structure of the open source license precludes such individualized negotiation, and raises the possibility that a licensor may find itself in a licensing relationship with entities with which, under ordinary circumstances, he would eschew any association.

These puzzles also demonstrate how the non-discrimination principle is fundamental to the structure of the open source license. The questions spring from the shared architecture of the licenses, rather than from readings of the Definitions, potential interpretations of any specific license text or the application of any particular legal doctrine. Non-discrimination is not a marginal notion of political inclusion grafted onto the more central trunk of open source norms. Non-discrimination, rather, is a constitutional organizing principle common to all free and open source licenses and sets such licenses apart from other contractual and licensing regimes.