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Wikipedia and the European Union Database Directive

Jacqueline D. Lipton

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"Web 2.0" and "User Generated Content" (UGC) are the new buzzwords in cyberspace. In recent years, law and policy makers have struggled to keep pace with the needs of digital natives in terms of online content control in the new participatory web culture. Much of the discourse about intellectual property rights in this context revolves around copyright law; for example, who owns copyright in works generated by multiple people, and what happens when these joint authored works borrow from existing copyright works in terms of derivative works rights and the fair use defense. Many works compiled by groups are subject to creative commons licenses and may only be reproduced on similar terms. While many of these copyright questions remain unanswered, little attention has yet been given to the application of the sui generis database right created under the European Union Database Directive in the Web 2.0 context. This article takes up issues relating to the application of the Database Directive to compilations of data in the Web 2.0 universe. Wikipedia forms the basis of a case study for the purposes of examining the extent to which the Directive may impact the operations of Web 2.0 services involving significant amounts of UGC.

INTRODUCTION

Because of their interactive and largely non-commercial nature, Web 2.0 technologies raise new challenges for intellectual property laws on a global level. Web 2.0 forums are characterized by their
interactive and participatory nature. They include blogs, wikis, multiplayer online games, and online social networks ("OSNs") like Facebook and MySpace. Web 2.0 participants — such as bloggers, online gamers, and participants in OSNs — are often motivated by a shared community spirit rather than by commercial profit motives. For example, gamers are interested in the games they are playing and perhaps in building networks of fellow gamers. Bloggers are interested in building expressive communities, often based on particular issues that may be the subject of the blog; for example, a number of law professors now engage in blogs focusing on intellectual property matters. Participants in wikis share similar interests — those of collecting ideas and information with a particular goal. Wikipedia, the focus of this article, is a wiki that aims to be a comprehensive, free global online encyclopedia.

Intellectual property law — especially copyright and trademark law — has struggled to keep pace with the new technologies. Courts and commentators have been grappling with the application of traditional intellectual property principles to new online forums, such as sophisticated search engines, online fan fiction, and blogs.

1. DAVID KESMODEL, THE DOMAIN GAME: HOW PEOPLE GET RICH FROM INTERNET DOMAIN NAMES 126 (2008) ("Web 2.0 was a buzz word used to describe a new wave of Web businesses that leveraged social networking, user-generated content, and other forms of collaboration and information-sharing on the Internet."); JANET LOWE, GOOGLE SPEAKS: SECRETS OF THE WORLD'S GREATEST BILLIONAIRE ENTREPRENEURS, SERGEY BRIN AND LARRY PAGE 294 (2009) (defining "Web 2.0" as "A term used to describe an evolving generation of a participatory Web. Web 2.0 describes the proliferation of interconnectivity and social interaction on the World Wide Web.").


4. Playboy Enters., Inc. v. Netscape Commc'ns Corp., 354 F.3d 1020 (9th Cir. 2004) (application of trademark law to search engine keyword advertising program); Perfect 10, Inc. v. Google Inc., 508 F.3d 1146 (9th Cir. 2007) (application of copyright principles to image search engine); Perfect 10, Inc. v. Visa Int'l Serv., Ass'n., 494 F.3d 788 (9th Cir. 2007) (application of copyright principles to modern electronic payments system services).

However, most of the recent discourse has focused on copyright and trademark doctrines. Little attention has been paid to the potential implications of the European Union Database Directive ("Database Directive" or "Directive") and the sui generis "database right" it creates on Web 2.0 technologies. This article aims to fill this current gap in the recent discourse by presenting a case study examining the ways in which the Directive may apply to Wikipedia — a prime example of a global, highly interactive Web 2.0 online forum. While the discussion is specific to Wikipedia, it does raise considerations that may be of concern to other global online Web 2.0 forums.

Part I of this article sets out the structure and scope of the Database Directive, and addresses some of the limitations inherent in its provisions when applied to Web 2.0 technologies. Part II examines ways in which the Directive’s provisions may impact Wikipedia’s online activities. It makes some reference to Wikipedia’s own intellectual property policies which are drafted predominantly in terms of copyrights, and which make no specific reference to the Directive. This Part focuses on jurisdictional issues, and on ways in which the Directive may apply to information gathered by Wikipedia contributors as well as information disseminated via Wikipedia. Part III focuses in a little more detail on some of the unanswered questions arising in Part II, specifically the jurisdictional issues and collective ownership issues. Part IV concludes and makes some comments about questions that need to be resolved in the future when considering the application of the Directive to Web 2.0 technologies.

I. A PRIMER ON THE EUROPEAN UNION DATABASE DIRECTIVE

A. Intellectual Property Rights in Compilations of Information

The European Union Database Directive was adopted in 1996. Its aim was to harmonize the law amongst European Union Member States relating to intellectual property protections granted to databases

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6. See, e.g., Lee, supra note 5 (focusing on applications of copyright law to forums involving UGC); Schwabach, supra note 5 (discussion of the interaction of fan fiction with copyright law); Hetcher, supra note 5 (examining positive aspects of allowing social norms to function as a regulator of fan fiction activities online).


8. Id. at art. 7 (setting out the scope of the sui generis database right).

9. Id.
and compilations of information. Prior to the implementation of the Directive, different European Union countries maintained varying levels of protection for compilations and databases. Some Member States, such as the United Kingdom, protected some compilations and databases through copyright law, despite originality concerns. Others were less prepared to extend copyright protection to non-original databases. Additionally, some Member States had specific legislation aimed at non-original databases.

The reason for the disparate treatment of compilations and databases historically stems in large part from the constitutional basis for copyright legislation in any given country. Looking at the issue from a global perspective, it is possible to see just how varied different countries' attitudes have been towards the copyrightability

10. Id., Recital 6 ("[I]n the absence of a harmonized system of unfair-competition legislation or of case-law, other measures are required in addition to prevent the unauthorized extraction and/or re-utilization of the contents of a database.").

11. Id., Recital 1 ("[D]atabases are at present not sufficiently protected in all Member States by existing legislation; whereas such protection, where it exists, has different attributes.")

12. Hasan A. Deveci, Databases: Is Sui Generis a Stronger Bet Than Copyright?, 12 INT'L J.L. & INFO.TECH. 178, 184-85 (2004)("In Cramp v. Smythson [1944] AC 329] the appellants contended that a series of initial tables in the defendants' 'Surrey Lightweight Diary 1942' infringed copyright in their 'Liteblue Diary 1933.' The court held that information in the plaintiff's diary consisting of ordinary tables freely available from the postal guide or the Nautical Almanac did not evidence any content specially composed for the respondent's diary and did not therefore involve sufficient effort to attract copyright. Lord Macmillan said: 'The inclusion or exclusion of one or more of the tables constituting the ordinary stock material of the diary-compiler seems to me to involve the very minimum of labour and judgement.' On the other hand, in Leslie v. Young & Sons [1894] AC 335] where the compilation was treated as consisting of several parts, the compilation of a local timetable abridged from official railway timetables was not sufficiently original but the compilation of circular tours about the same town was entitled to protection.").

13. Database Directive, supra note 7, Recital 39 ("[I]n addition to aiming to protect the copyright in the original selection or arrangement of the contents of a database, this Directive seeks to safeguard the position of makers of databases against misappropriation of the results of the financial and professional investment made in obtaining and collection the contents by protecting the whole or substantial parts of a database against certain acts by a user or competitor.").

14. P. Bernt Hugenholtz, Implementing the European Database Directive, in INTELLECTUAL PROPERTY AND INFORMATION LAW, ESSAYS IN HONOUR OF HERMAN COHEN JEHORAM 183 (Jan. J.C. Kabel & Gerard J.H.M. Mom eds., 1998), available at http://www.ivir.nl/staff/hugenholtz.html (last visited May 10, 2010) ("The sui generis [database] right appears to be inspired, at least in part, by the so-called catalogue rule, a traditional (and unique) feature of Scandinavian law. The copyright acts of all five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) contain provisions expressly protecting non-original compilations of data, such as catalogues, tables and similar compilations, provided they comprise 'a large number' of items.") (citing Gunnar W.G. Kamell, The Nordic Catalogue Rule, in PROTECTING WORKS OF FACT: COPYRIGHT, FREEDOM OF EXPRESSION AND INFORMATION LAW 67 (E.J. Dommering & P.B. Hugenholtz eds., 1991)).
of databases. For example, the United States Supreme Court regards a certain minimal level of originality or creativity in the selection or arrangement of a database’s contents as a constitutional requirement for copyright protection. Thus, the Court held a white pages telephone directory to be uncopyrightable because of a lack of originality in the selection and arrangement of an alphabetical listing of subscriber names, addresses, and telephone numbers.

The Canadian Supreme Court, on the other hand, has postulated a test for the copyrightability of databases based on the exercise by the database creator of a certain amount of “skill and judgment.” The Court held that a particular format of law reports published by a proprietary entity was copyrightable. Australian courts had initially accepted the copyrightability of non-original databases under a “sweat of the brow” standard, holding a white pages telephone directory to be copyrightable. However, subsequent Australian judicial decisions have made it practically impossible for a plaintiff to succeed on an infringement claim based on a non-original database.

The arguments against copyrighting compilations of information and databases relate to concerns about over-propertizing information and knowledge that should rightfully be available in the public domain. While intellectual property law has historically been about creating incentives for innovation, the countervailing fear is that too many property rights in information will chill the free exchange of information and will be counterproductive to the copyright’s historical aims. The early days of the Internet significantly

16. Id. at 362-63.
18. Id. at 379.
21. MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW 24-25 (4th ed. 2005) (“On the one hand, copyright law provides the incentive to create information and a shelter to develop and protect it. On the other hand, the copyright monopoly is a limited one – limited in time and scope by such doctrines as idea/expression, originality, and fair use. Viewed in this way, copyright law represents an economic tradeoff between encouraging the optimal creation of works of authorship through monopoly incentives, and providing for their optimal access, use, and distribution through limiting doctrines.”).
exacerbated fears about over-propertization of data and information. 23

Concerns about over-propertization of information through intellectual property law occurred well before the advent of Web 2.0 technologies. 24 The Database Directive was drafted with the initial Internet concerns in mind. 25 The drafters could not have contemplated what the future of technological development would bring. The Directive focused on preserving economic incentives for commercial investment in valuable online databases with perhaps too little regard for competing public interests, such as preservation of the public domain. 26

European Union Directives, such as the Database Directive, are mandates to Member States to adopt domestic regulations implementing the Directive’s provisions into domestic law within a particular time period — usually around two years — after the adoption of the Directive. 27 Within a Directive, some provisions may be mandatory while others are discretionary. 28 In other words, some provisions of a Directive require action on the part of all Member States, while others merely suggest legislative action at the option of each Member State. The Database Directive is no exception.


23. See Hunter, supra note 22.

24. See Id. at 447 (describing concerns about overpropertization of the Internet well before the advent of Web 2.0 technologies); Mark A. Lemley, Place and Cyberspace, 91 CAL. L. REV. 521 (2003) (early concerns about overpropertization of online content); Jacqueline Lipton, Mixed Metaphors in Cyberspace: Property in Information and Information Systems, 35 LOY. U. CHI. L.J. 235 (2003) (responding to concerns about overpropertization of online content).

25. For example, as the following discussion demonstrates, the Directive is framed in terms of processors of aggregated text-based data and does not specifically contemplate interactive online forums where participants share user-generated content, as is the case with Wikipedia.

26. See discussion infra Part I.B.

27. See Wikipedia definition of “Directive (European Union), http://en.wikipedia.org/wiki/European_Union_directive (last visited on Apr. 20, 2010) (“A directive is a legislative act of the European Union, which requires member states to achieve a particular result without dictating the means of achieving that result. It can be distinguished from regulations which are self-executing and do not require any implementing measures. Directives normally leave member states with a certain amount of leeway as to the exact rules to be adopted. Directives can be adopted by means of a variety of legislative procedures depending on their subject matter.”).

28. See id.
B. Structure of the Directive

In its attempt to harmonize all European Union Member States’ positions on the protection of compilations and databases, the Database Directive does two things: it clarifies the operation of the originality standard for copyrighting databases and compilations, and it simultaneously creates a new sui generis “database right” — independent of copyright — that can inhere in both original and unoriginal databases.\(^{29}\) In terms of copyright protection, Article 3.1 provides that: “[D]atabases which, by reason of the selection or arrangement of their contents, constitute the author’s own intellectual creation shall be protected as such by copyright. No other criteria shall be applied to determine their eligibility for that protection.”\(^{30}\) This test for copyrighting databases is virtually the same as the common law test applied in the United States under *Feist*.\(^{31}\)

Article 7.1 of the Directive sets out the contours of a new sui generis database right. It states that: “Member States shall provide for a right for the maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.”\(^{32}\) This provision basically adopts the “sweat of the brow” test for database protection under the new sui generis right. This is the very test that was rejected by the United States Supreme Court in *Feist* (in the copyright context).\(^{33}\) The “sweat of the brow” test is based on the premise that someone who has put significant time, effort, or resources into the creation of a valuable commodity should be entitled to reap the rewards of her endeavors by obtaining a property right.\(^{34}\)

A “database” is defined for the purposes of the Directive as “a

\(^{29}\) Database Directive, *supra* note 7, at art. 7.1.

\(^{30}\) *Id.* at art. 3.1.

\(^{31}\) See *Feist* Publ’ns, Inc. v. Rural Tel. Serv. Co., Inc., 499 U.S. 340, 349 (1991) (“[I]f the selection and arrangement are original, these elements of the work are eligible for copyright protection.”).

\(^{32}\) Database Directive, *supra* note 7, at art. 7.1.

\(^{33}\) See *Feist*, 499 U.S. at 361 (“[T]he 1976 revisions to the Copyright Act leave no doubt that originality, not ‘sweat of the brow,’ is the touchstone of copyright protection in directories and other fact-based works.”).

\(^{34}\) See *id.* at 352 (“Known alternatively as ‘sweat of the brow’ or ‘industrious collection,’ the underlying notion was that copyright was a reward for the hard work that went into compiling facts.”).
collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means." This definition is relatively broad in that it comprises original databases made up of collections of works — such as anthologies of poetry — as well as unoriginal databases made up of individual facts — such as customer and supplier lists and product catalogs. The definition of “database” covers information compiled in hard copy and electronic formats. Thus, it would potentially apply to a paper calendar, train timetable or telephone directory, as well as to their digital counterparts.

The Directive explains the relationship between the Article 3 copyright in a database and the Article 7.4 sui generis database right. This subsection of the Article provides that the sui generis database right may subsist in a database that is also eligible for copyright protection under Article 3.1. In other words, the rights may subsist side by side in the same database. However, if a database is insufficiently original in the selection or arrangement of its contents to attain copyright protection, it may nevertheless obtain protection under the database right. Copyrightable databases therefore form a subset of all databases entitled to sui generis protection under the Directive.

The Database Directive carves out exceptions and defenses to the operation of both the database copyright in Article 3 and the sui generis database right in Article 7. With respect to database copyrights, the Directive provides some protections for “lawful users,” although that term is not defined. Presumably, it refers to those entitled to access a copyrighted work under the provisions of an applicable contractual license or by other lawful means. The Directive further allows Member States, at their discretion, to create specified exceptions to the operation of the copyright provisions of the Database Directive. These limitations include: (a) reproductions for private purposes of a non-electronic database; (b) uses of a copyrighted database “for the sole purpose of illustration for teaching

35. Database Directive, supra note 7, at art. 1.2.
36. See id. (defining “database” broadly as: “a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means”).
37. Id.
38. Id. at art. 7.4 (“The right provided for in paragraph 1 shall apply irrespective of the eligibility of that database for protection by copyright or by other rights.”).
39. Id. at art. 6.1.
40. Id. at art. 6.2(a) (emphasis added).
or scientific research” where the use is justified by a non-commercial purpose;\(^4\) (c) uses for the purpose of public security or for an administrative or judicial procedure;\(^4\) and (d) other exceptions to copyright that are traditionally authorized under national law.\(^4\)

With respect to the *sui generis* database right, Article 8 prevents a database maker from preventing a lawful user — again not a defined term — from making lawful uses of the database that do not conflict with the database maker’s legitimate interests in, or normal commercial exploitation of, the database.\(^4\) Article 9 mirrors Article 6 in leaving it to Member States’ discretion whether to adopt defenses to an infringement of the database right based on private purposes,\(^4\) illustration for teaching or scientific research,\(^4\) and public security, administrative, or judicial procedures.\(^4\)

The exceptions in both Articles 6 and 9 are very limited in practice. For one thing, they are not mandatory.\(^4\) Individual Member States can decide whether or not to implement them. In substance, the exception for private purposes will be limited in practice to paper-based databases and will not apply to electronic databases.\(^4\) The latter are likely to be the subject of most modern database disputes. The exemption for teaching and research is also likely to have minimal practical impact because it is expressly limited to the *sole purpose of illustration* in the teaching and research context, and to furthering a clearly *non-commercial purpose*.\(^4\) Given modern educational practices, it may be the case that very few uses in the educational community fall within such a narrow definition. Many educational institutions charge fees for courses, hence potentially creating difficulties in asserting a non-commercial purpose. It is also not clear when a teaching or research use would be regarded as solely

\(^{41}\) Id. at art. 6.2(b).

\(^{42}\) Id. at art. 6.2(c).

\(^{43}\) Id. at art. 6.2(d).

\(^{44}\) Id. at arts. 8.1 & 8.2.

\(^{45}\) Id. at art. 9(a).

\(^{46}\) Id. at art. 9(b).

\(^{47}\) Id. at art. 9(c).

\(^{48}\) Id. at art. 6.2 (“Member States shall have the option of providing for limitations on the rights set out in Article 5 in the following cases . . . .”) (emphasis added); art. 9 (“Member States may stipulate that lawful users of a database which is made available to the public in whatever manner may, without the authorization of its maker, extract or re-utilize a substantial part of its contents...[lawful use purposes set out in following sub-paragraphs]”) (emphasis added).

\(^{49}\) Id. at arts. 6.2(a) & 9(a).

\(^{50}\) Id. at arts. 6.2(b) & 9(b).
for illustrative purposes, as opposed to some other purpose. “Illustrative purposes” are not defined in the Directive. The public security exception likewise will not apply to many individual uses of an electronic database.51

Some of the more interesting features of the Directive for the purposes of this discussion are the term of protection granted under the Directive and the identification of the beneficiaries of the sui generis database right. In terms of duration, a database right is expressed to endure for 15 years from the first of January in the year following the completion of the database.52 However, any change in the contents of the database — including changes occasioned by successive updates — may “result in the database being considered to be a substantial new investment” entitled to a renewed 15 year term of protection.53 As most online databases are regularly updated, they will generally qualify for a new 15 year term of protection at some point within the original term. Thus, they effectively obtain infinite protection as long as they are continually updated.54

In terms of who can claim a database right, Article 11 provides that the right will apply to any “database whose makers or rightholders are nationals of a Member State” or habitually reside in the European Union.55 It is important to appreciate that the maker is not necessarily the “rightholder” with respect to a given database because the maker is entitled to transfer or assign the database right,56 much as she could assign a copyright in a copyrightable database.57 Article 11.2 extends the ability to own a database right to corporate entities formed within a Member State and with a registered office, central administration, or principal place of business within a Member State.58

51. Id. at arts. 6.2(c) & 9(c).
52. Id. at art. 10.1.
53. Id. at art. 10.3.
54. Reichman & Samuelson, supra note 22, at 84-85.
56. Id. at art. 7.3 (“The right referred to in paragraph 1 may be transferred, assigned or granted under contractual licence [sic].”)
57. See generally Copyright, Designs and Patents Act, 1988, c.48, § 90(1) (Eng.) (“Copyright is transmissible by assignment, by testamentary disposition or by operation of law, as personal or moveableproperty”).
58. Database Directive, supra note 7, art. 11.2 (“Paragraph 1 shall also apply to companies and firms formed in accordance with the law of a Member State and having their registered office, central administration or principal place of business within the Community; however, where such a company or firm has only its registered office in the territory of the Community, its operations must be genuinely linked on an ongoing basis with the economy of a Member State.”).
It appears that the Directive at least implicitly contemplates the potential for joint ownership of a database right. Joint ownership, of course, may become very important in the Web 2.0 context. The ability to assert joint ownership in a database right may be supported by reference to at least two of the Directive’s provisions. Article 11.1 provides for ownership of a database right by database makers or rightholders within a Member State — referring to “makers” and “rightholders” in the plural.\(^5\) This suggests the possibility of accepting joint ownership of a database right. On the other hand, it may only suggest multiple rights holders with respect to multiple databases, i.e., only one rights-holder per database. The legislative intention is not clear on the face of the provision.

Article 4.3 of the Directive provides that: “In respect of a database created by a group of natural persons jointly, the exclusive rights shall be owned jointly.”\(^6\) This provision suggests joint ownership, but it appears in the section of the Directive that focuses on copyrights in databases, rather than sui generis database rights.\(^6\) Article 4.3 might be juxtaposed against Article 4.1, which relates to “authorship” of a database — “authorship” clearly being a term limited to copyright protection. Thus, it is not clear that Article 4.3 supports joint ownership of a sui generis database right as opposed to a database copyright.

From this brief survey of the Directive, it is evident that even before adding Web 2.0 technologies into the mix, the Directive already suffered from some potential difficulties in application and interpretation. The term of protection of the sui generis database right, for example, while intended to be less than copyright protection, effectively can last indefinitely because of the drafting of Article 10.3 — allowing extended terms of protection for new investments in the database. It is not clear whether joint ownership is possible in relation to the sui generis database right, as opposed to a database copyright. The defenses to infringement of database copyrights and the sui generis right also seem to be relatively minimal in practice.

The Database Directive also arguably suffers from limitations inherent in the drafters’ Web 1.0 perspective at the time of drafting. Because the drafters were focused on early Internet technologies, they

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59. Id. at art. 11.1 ("The right provided for in Article 7 shall apply to database whose makers or rightholders are nationals of a Member State or who have their habitual residence in the territory of the Community.").

60. Id. at art. 4.3.

61. Id. Chapter 2 (dealing with copyrights in databases).
conceived of databases in terms of creations held predominantly by one person or corporation, or by a small group of persons or corporations, all of whom had worked together to invest time, effort and resources into the creation of the database.\textsuperscript{62} There was no appreciation that a collection of data might in the future be created on a massive scale within a Web 2.0 forum where the whole world has been invited to participate in database generation. This is certainly an apt description of Wikipedia where anyone in the world can contribute content.\textsuperscript{63} In this context, there will potentially be a vast number of “database makers,” many of whom are not nationals of nor habitually reside in European Union Member States, but many of whom are in the European Union.

II. WIKIPEDIA AND THE DATABASE DIRECTIVE

A. Jurisdictional Issues

Wikipedia’s information page states that:

Wikipedia . . . is a multilingual, web-based, free-content encyclopedia project based on an openly-editable model. The name “Wikipedia” is a portmanteau of the words \textit{wiki} (a technology for creating collaborative websites, from the Hawaiian word \textit{wiki}, meaning “quick”) and \textit{encyclopedia}. Wikipedia’s articles provide links to guide the user to related pages with additional information.

Wikipedia is written collaboratively by largely anonymous internet volunteers who write without pay. Anyone with internet access can write and make changes to Wikipedia articles (except in certain cases where editing is restricted to prevent disruption and/or vandalism). Users can contribute anonymously, under a pseudonym, or with their real identity, if they choose, though the latter is discouraged for safety reasons.\textsuperscript{64}

Already, we can see potential jurisdictional problems arising in the application of any laws, including intellectual property laws, to Wikipedia’s operations. Participants in the Wikipedia project come from all over the world and it is unclear whether they have a contractual relationship with the Wikimedia Foundation that runs Wikipedia and owns its servers.\textsuperscript{65} If contributors do have a

\textsuperscript{62} Database Directive, \textit{supra} note 7.


\textsuperscript{64} \textit{Id}.

contractual relationship, it is possible that Wikimedia can regulate some contributor conduct via contract, although that still may have little impact on the application of intellectual property laws of more general application.

The Wikipedia website promulgates a number of user policies, but it is not clear whether they have binding contractual force on users. Some of the policies are specifically focused on intellectual property issues, although none of them touches on the Database Directive. Wikipedia has a lengthy copyright policy under which it states that: “The Wikimedia Foundation is based in the United States and accordingly governed by United States copyright law.” While it may be correct to state that an American entity whose servers are situated on American soil is governed by American law, this may not cover every activity that involves contributions to Wikipedia as the following discussion illustrates. Wikipedia solicits content from other jurisdictions and content is uploaded from other countries to Wikipedia’s American servers. Content is then disseminated so it is available all over the world, regardless of where the host servers are based.

Presumably where a Wikipedia contributor gathers content from a website outside the United States, the local country’s intellectual property laws would apply with respect to permitted uses of that content. Thus, if a British Wikipedia contributor copied material from a British website on to Wikipedia, that contributor might rely on the British “fair dealing” defense to copyright infringement with respect to taking the material from the British website in the first place. Likewise, if a Wikipedia contributor extracted material protected by the sui generis database right from a European Union Member State’s website, she may have infringed the database right unless she fell within an exception adopted into the relevant Member State’s domestic law.

Extractions from a database for the purpose of a Wikipedia posting generally would not fall within any of the discretionary exceptions to the database right set out in Article 9: private use of a non-electronic database; illustrative purposes for teaching or research; or public security. The second exemption — illustration for teaching

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66. Id.
67. Id.
69. See Copyright, Designs and Patents Act, 1988, c. 48, §§ 29-31 (Eng.).
or research — is the most likely candidate to assist a Wikipedia contributor. Even that exception is unlikely to apply in many cases concerning Wikipedia. For one thing, the Member State in question would have to adopt the exemption into its domestic law for it to apply. Secondly, there is an open question as to whether posting information on Wikipedia meets the rather narrow definition of illustration for teaching or research purposes set out in the Directive.

B. Database Rights in Individual Wikipedia Entries

There are three aspects of Wikipedia's content that could potentially attract a sui generis database right: (a) a specific Wikipedia entry, (b) the database as a whole, and (c) sources that contributors use to formulate Wikipedia entries. Each of these is considered separately below. Some of them raise more complex questions than others. The definition of "database" in the Directive does not specifically require the database to be physically situated in a European Union Member State to obtain protection. In fact, the database right appears to be granted to people and entities habitually connected with European Union Member States, regardless of where the database is physically situated.

Article 11.3 contemplates that the European Union governing bodies may extend protection by agreement to databases "made in third countries and falling outside the provisions of paragraphs 1 and 2." Paragraphs 1 and 2 in this context are the paragraphs that grant database rights to individuals and corporations situated within European Union Member States. The wording of Article 11.3 suggests by implication that those people are entitled to database rights wherever a database is physically located. This interpretation of Article 11 would have made sense as a policy matter in the Web 1.0 context. It was always possible in the early days of the Internet for some database makers to be situated within the European Union while the resulting database — or a copy of it — was hosted on a server in a non-E.U. country. However, the matter is more complex in a Web 2.0 world. Despite the fact that Wikipedia's copyright policy suggests that all of Wikipedia's content is governed by United States copyright

70. Database Directive, supra note 7, at art. 9 (The exemptions to the Database Directive in Article 9 are discretionary as noted above: see Part I.B, supra).
71. Id. at arts. 11.2 & 11.3.
72. Id. at art. 11.3.
73. Id. at arts. 11.1 & 11.2.
74. Id. at art. 11.3.
law,\textsuperscript{75} the provisions of the Database Directive suggest that Wikipedia contributors situated in European Union countries could assert database rights in Wikipedia entries to which they had contributed. In any event, Wikipedia's policies are silent on the applicability or otherwise of the Database Directive.\textsuperscript{76}

With respect to copyrights, Wikipedia requires contributors to grant a non-revocable license to Wikipedia for any contributions made to the encyclopedia.\textsuperscript{77} In other words, Wikipedia's policy states that authors retain copyright while granting a non-revocable license.\textsuperscript{78} The policy says nothing about database rights.\textsuperscript{79} If European Union contributors hold database rights in content they have posted, it is possible that the license would not apply to the database right, but only to the copyright. Additionally, it is not clear whether Wikipedia's policy would form a binding contract, as it is not immediately clear what the consideration for the license would be.

Arguably, the consideration would be that the contributor gets the opportunity to post information on Wikipedia in return for granting the license. Even if this is the case, the question might arise whether contributors are given sufficient notice of the license terms for them to be binding. While American courts have generally enforced online contracts where the user of a website has manifested assent to the terms — such as by clicking on an “I Agree” icon\textsuperscript{80} — Wikipedia’s terms do not appear to fit this model. Wikipedia's information page expressly states that: “The Wikipedia community has developed many policies and guidelines to improve the encyclopedia, however, it is not a formal requirement to be familiar with them before contributing.”\textsuperscript{81} This resembles the kind of “browse-wrap” agreement that has generally not been enforced by American

\textsuperscript{75} Wikipedia: Copyrights Page, \textit{supra} note 65 (“The Wikimedia Foundation is based in the United States and accordingly governed by United States copyright law.”).

\textsuperscript{76} \textit{Id.}

\textsuperscript{77} \textit{Id.}

\textsuperscript{78} \textit{Id.} (“You retain copyright to materials you contribute to Wikipedia, text and media. Copyright is \textit{never} transferred to Wikipedia. You can later republish and relicense them in any way you like. However, you can never retract or alter the license for copies of materials that you place here; these copies will remain so licensed until they enter the public domain when your copyright expires . . . .”).

\textsuperscript{79} \textit{Id.}

\textsuperscript{80} \textit{See, e.g.,} Caspi v. Microsoft Network, L.L.C., 732 A.2d 528 (N.J. Super. Ct. App. Div. 1999); ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1452 (7th Cir. 1996) (Where the “software splashed the license on the screen and would not let [the user] proceed without indicating acceptance,” similar to an “I Agree” or “I Accept” button from the \textit{Caspi} case.).

\textsuperscript{81} Wikipedia Help: About Page, \textit{supra} note 63.
courts.\textsuperscript{82}

Thus, where a group of contributors to a particular Wikipedia entry comprise European Union nationals or persons residing in European Union countries, it is possible that one or more of those people might assert a database right in the content of the entry regardless of what Wikipedia's policies say about intellectual property ownership. If a database right is asserted in a Wikipedia entry, it is possible that the irrevocable license provision would not apply — assuming its enforceability — as it is expressed in Wikipedia's policies only in terms of copyrights, and not other intellectual property rights.

The Database Directive is silent on the situation where some of the database makers are European Union residents and some are not. Perhaps one could interpret Article 11 to mean that \textit{all} of the contributors to the database have to be connected with the European Union for the Directive to apply. While the Directive does not specifically say this, it does contemplate ownership of a database right with respect to a database “whose makers or rightholders are nationals of a Member State or who have their habitual residence in the territory of the Community.”\textsuperscript{83} It may be possible to interpret this provision as meaning that \textit{all} of the makers or right holders have to be connected with the European Union for a database to attract the \textit{sui generis} database right. This would avoid the situation where a Wikipedia entry has some contributors asserting a database right while their co-contributors (not from the European Union) are unable to make the same claims with respect to the entry.

A Wikipedia entry is probably a “database” for the purposes of the broad definition of the term in the Directive because it is likely “a collection of ... data or other materials arranged in a systematic or methodical way and individually accessible by electronic ... means.”\textsuperscript{84} Thus, the real challenge for application of the Directive’s provisions has to do with the connection of the makers or rightholders with the European Union. A secondary concern is whether the Directive supports joint ownership of the \textit{sui generis} database right.\textsuperscript{85} If the Directive is read as not contemplating joint ownership of a database right, the Directive will not apply to jointly authored


\textsuperscript{83} Database Directive, supra note 7, at art. 11.1.

\textsuperscript{84} Id. at art. 1.2.

\textsuperscript{85} See discussion supra Part I.B.
Wikipedia entries.

C. Database Rights in Wikipedia as a Whole

Of course, if individual Wikipedia entries might qualify for the database right, so might Wikipedia as a whole. Wikipedia clearly meets the definition of "database" in the Directive as it is unquestionably "a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means." The question as to whether Wikipedia itself qualifies for database right protection mirrors some of the questions raised in the preceding discussion about individual entries qualifying for database right protection.

Wikipedia asserts that the Wikimedia Foundation does not own copyright in its article texts and illustrations, other than its trademarked logos. However, it states in its copyright policy that: "The text of Wikipedia is copyrighted... by Wikipedia editors and contributors and is formally licensed to the public under one of several liberal licenses." Thus, Wikipedia itself contemplates that the encyclopedia is jointly owned, at least with respect to copyright. It is possible that the database right could also apply if the database right supports joint ownership and a sufficient number of Wikipedia contributors and editors are sufficiently connected with the European Union under Article 11. Again, this assumes that joint ownership is possible under the Database Directive, and that Article 11 can be interpreted as allowing a database right where some of the database makers are not connected with the European Union.

However, some authority from the European Court of Justice might stand in the way of a database right claim in Wikipedia. In the William Hill case, for example, the European Court of Justice interpreted the Directive to deny database right protection for an entity whose business it is to create the database. The reasoning was

86. Database Directive, supra note 7, at art. 1.2.
87. Wikipedia: Copyrights Page, supra note 65 ("The Wikimedia Foundation does not own copyright on Wikipedia article texts and illustrations. It is therefore pointless to email our contact addresses asking for permission to reproduce articles or images, even if rules at your company or school or organization mandate that you ask web site operators before copying their content. The only WP content you should contact the Wikimedia Foundation about is the trademarked Wikipedia/Wikimedia logos, which are not freely usable without permission.").
88. Id.
89. See discussion supra Part I.B.
that there was likely no particular distinct investment in the creation of the database, for the purposes of Article 7.1 of the Directive, where an institution’s function was to create the database in the ordinary course of its business.91 It is not clear how this would play out in the case of a not-for-profit enterprise like Wikipedia. Its “business” is to create the online encyclopedia through global collaborative efforts of its contributors and editors.92 However, it is not a commercial business model of the kind considered in William Hill.93 Thus, the extent to which the Court’s exception to the database right would apply to Wikipedia is unclear.

D. Database Rights in Wikipedia’s Sources

Wikipedia’s assertion that it does not own copyrights in entries contributed to it has no bearing on the copyrights or other intellectual property rights that may be held in source material that contributors use to compile Wikipedia entries. Wikipedia’s Copyright FAQ page requires that contributors only post material on Wikipedia that they obtained from another source if the material is licensed compatibly with the creative commons licenses favored by Wikipedia.94 The copyright policy also states that: “Contributors who repeatedly post copyrighted material despite appropriate warnings may be blocked from editing by any administrator to prevent further problems.”95 It further states that: “If a [Wikipedia] page contains material which infringes copyright, that material — and the whole page, if there is no other material present — should be removed.”96

Much source material, particularly source material obtained from the European Union, could attract sui generis database right protection provided that it falls within the Directive’s definition of “database.”97 Wikipedia’s policies are silent on possible infringements by its contributors of database rights in source material. Of course, it may be possible that source material subject to such

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91. Id.
94. Wikipedia: FAQ/Copyright Page, http://en.wikipedia.org/wiki/Wikipedia:Copyright_FAQ (last visited Apr. 19, 2010) (“You can add any type of content if it has been made available by authors under an appropriate license . . .”)
96. Id.
97. Database Directive, supra note 7, at art. 1.2 (“For the purposes of this Directive, ‘database’ shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.”).
rights is licensed in some cases on terms compatible with the creative commons licenses favored by Wikipedia, in which case there is no practical problem. Where material is not licensed in this way, Wikipedia's contributors may be liable for database right infringements and it is possible that Wikipedia could also be secondarily liable for such infringements — although the Directive itself is silent on questions of secondary liability.

In order to avoid database right infringement liability, a contributor would have to obtain a license from a database maker or assert an applicable defense available in an appropriate jurisdiction. As noted above, the defenses to database right infringement contemplated in the Directive are particularly narrow in scope and may not be enacted into domestic law in all jurisdictions in which an infringement takes place.98 It may further be difficult for Wikipedia contributors to identify the maker or makers of a database where the database is the source material for a Wikipedia entry. Some information that is available on the Internet does not sufficiently identify the compilers of the information for a user to know who might own a database right on the content.99 It may further be unclear whether the database makers are sufficiently connected with the European Union for them to assert a sui generis database right. As the Directive does not require database makers to register their databases or to include ownership or content management information on their databases,100 it may be very difficult for downstream users of that information — such as Wikipedia contributors — to gauge whether a database right exists at all and, if so, who owns it.

Perhaps Wikipedia's policies should be more broadly drafted so as to note that Wikipedia pages that infringe any intellectual property rights of others — as opposed to simply copyrights — should be removed from Wikipedia. Obviously, Wikipedia is treading a fine line here because it wants to encourage people to contribute to its pages, and it does not want to scare away potential contributors because of their unfamiliarity with global intellectual property laws. On the other hand, failure to acknowledge specific rights and to give contributors notice of the kinds of sanctions likely to be imposed for failure to respect those rights may lead to courts being more amenable to holding Wikipedia secondarily liable for the intellectual property

98. See discussion supra Part I.B.
99. For example, many blogs do not identify the true identities of the bloggers or any contact information for them.
100. Database Directive, supra note 7, at arts. 3.1, 11.1.
violations of its infringers.

III. UNANSWERED QUESTIONS

A. Jurisdiction

While the preceding discussion has raised more questions than it answers, the aim of the discussion has been to illustrate the fact that even a Directive drafted comparatively recently to address Internet issues has become dated very quickly. While the Database Directive was drafted with early Internet technologies in mind — large scale text based aggregations of data in the hands of one or a small number of database makers — its application in the global participatory Web 2.0 culture is more problematic. Applying the Directive to Web 2.0 technologies raises a number of challenges, including a variety of jurisdictional questions, joint ownership issues, and questions about the scope and range of available defenses to infringements.

In terms of jurisdiction, a Web 2.0 forum such as Wikipedia raises at least three different points of concern for the application of the Directive: (a) the point of gathering of source material for a Wikipedia entry; (b) the point of uploading information on to Wikipedia; and (c) the point of receipt of information by readers of Wikipedia. All of these activities might occur in different jurisdictions. While the place of upload of information to Wikipedia is currently Florida in the United States, the place of information gathering for Wikipedia entries and receipt of information posted in Wikipedia by a reader could be anywhere in the world. This is the same jurisdictional matrix faced by most Web 2.0 technologies including OSNs, blogs and virtual worlds.

While jurisdictional concerns were present in the early days of the Internet, the largely non-interactive nature of many online forums gave the website operators greater control over the information posted on the site. In other words, in the world of Web 1.0 technologies interactions tended to take the form of one-to-many communications rather than many-to-many communications. This meant that operators of online forums could take greater control over the gathering and posting of source material and did not run such a risk of being held


secondarily liable for the information gathering activities of others. While Web 1.0 technologies certainly raised cases involving the liability of Internet intermediaries for the posting of material by their users, these cases tended to revolve around questions of imposing secondary liability on Internet intermediaries under local laws. Early cases did not tend to focus so much on whether an Internet user’s information gathering activities for the purposes of posting on a website in one jurisdiction might have infringed a law in another jurisdiction.

Web 2.0 technologies such as Wikipedia are different from previous technologies in the scope and scale of actors involved in the joint creative enterprise. Unlike a traditional Internet intermediary that simply serves as a conduit for information posted by others — such as America Online or Yahoo! — Wikipedia shapes the nature and content of information posted and extends a global invitation for people to contribute to the project. Because the contributors, readers, and source material may all come from different jurisdictions, a complex matrix of jurisdictional questions arise with respect to applying intellectual property and other laws to Wikipedia.

It seems likely that local laws will relate to information gathering activities. In other words, where a contributor gathers information from an online source to form the basis of a proposed Wikipedia contribution, local laws at the place of information gathering will tend to apply to the source. Thus, if I copy information from a British website without permission, British law will apply to my copying and use of the information. However, even this approach raises a number of possibilities. For example, the question might arise as to how to define a “local law” in terms of the place of publication of the source material.

103. See Zippo, 952 F. Supp. at 1124.
106. Copyright, Designs and Patents Act, 1988, c. 48, § 16 (Eng.) (setting out acts restricted by British copyright law).
Does the "local law" relate to the place of the server on which the material resides? The place where a Wikipedia contributor first accessed the material? Or the place of nationality or habitual residence of the authors of the source material? For purposes of the *sui generis* database right, ownership is decided in terms of the place of residence or nationality of the database makers.\(^{107}\) However, copyright law, in contrast, might hinge more on the place of first publication of a protected work.\(^{108}\) Assuming that the location of the database producer(s) does ground jurisdiction in respect of a database right, then the laws of the relevant European Union country (or countries) would presumably apply to the activities of a Wikipedia contributor who takes source material from the database. This would include any defenses available for database right infringement within those local laws.

At the point when contributors upload information to the Wikipedia servers, on the other hand, it is probably correct to say that the relevant jurisdiction is the State of Florida in the United States. That is where Wikipedia's servers are maintained and it is the jurisdiction that Wikipedia asserts with respect to its activities.\(^{109}\) However, the fact that Wikipedia can probably assert Floridian jurisdiction with respect to uploading of information to its servers may not be of much comfort to contributors—or to Wikipedia in some cases—where the activity complained of by a database right holder has taken place partly or predominantly in another country.

The Database Directive prohibits the *extraction* or re-utilization of information from a database without the database owner's permission.\(^ {110}\) While a Wikipedia contributor's uploading of protected information to the Wikipedia servers may take place in Florida, and may be a *re-utilization* for the purposes of the Directive, the original *extraction* has likely taken place where the source material is situated.

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108. In fact, the international law relating to the place where copyright attaches to a work can be quite complex and can hinge on the nationality or residence of the author or on where the work is first published. *See* Berne Convention for the Protection of Literary and Artistic Works, art. 3, July 24, 1971, 25 U.S.T. 1345-47, 1161 U.N.T.S. 35, art. 3(1) ("The protection of this Convention shall apply to: (a) authors who are nationals of one of the countries of the Union, for their works, whether published or not; (b) authors who are not nationals of one of the countries of the Union, for their works first published in one of those countries, or simultaneously in a country outside the Union and in a country of the Union."); art. 3(2) ("Authors who are not nationals of one of the countries of the Union but who have their habitual residence in one of them shall, for the purposes of this Convention, be assimilated to nationals of that country.").
Additionally, the fact that Wikipedia is able to assert American copyright law in Wikipedia is as a whole not necessarily helpful if parts of the encyclopedia infringe other people's copyrights or database rights. The holder of a copyright in a work derived from other works does not automatically obtain rights to those source works in the absence of an effective defense, or an express or implied license.

Then there is the question of the location at which readers of Wikipedia access the encyclopedia which, again, could be anywhere in the world. Questions may arise as to whether Wikipedia is able to assert Floridian/American jurisdiction over all activities subsequent to the uploading of information to its servers in the United States. In the defamation context, for example, at least one court has held that the place of the plaintiff's reputational injury is the appropriate jurisdiction for an action regardless of where the information was originally uploaded. Thus, in some cases, a court may hold a local law applicable to material posted on Wikipedia, regardless of the fact that the place of upload was Florida.

The preceding discussion has limited its focus to the potential application of one particular intellectual property law — the European Union Database Directive — to one Web 2.0 forum — Wikipedia. When one adds other intellectual property laws and information law more generally (e.g., defamation law, privacy law, etc.), the jurisdictional issues become even more complex, particularly as jurisdictions vary significantly in terms of their respective applications of different laws relating to information gathering and distribution. Additionally, different Web 2.0 technologies will raise different legal issues. Many Web 2.0 forums differ in terms of where their servers and activities are physically located, as well as in their contractual terms of use. When one considers the variety of


113. Compare LinkedIn — User Agreement, http://www.linkedin.com/static?key=user_agreement&trk=hb_ft_userag, with Facebook - Statement of Rights and Responsibilities, http://www.facebook.com/terms.php. See also Amanda French, Facebook terms of service compared with MySpace, Flickr, Picasa, YouTube,
different legal issues that may arise in the Web 2.0 context and the variety of things Web 2.0 forums do to regulate their users' activities in terms of contract, jurisdictional questions take on a level of complexity unrivalled by earlier Web 1.0 technologies.

B. Collective Ownership

The Database Directive is difficult to apply in the Web 2.0 context because Web 2.0 technologies tend to be dominated by User Generated Content (UGC). Wikipedia is a prime example of an open forum where anyone with an Internet connection is invited to contribute, subject to Wikipedia's preferred policies.\(^{114}\) As noted in the preceding discussion, however, the Database Directive contemplates databases made by an individual or made by a group of individuals within a corporate entity.\(^{115}\) Its provisions regarding who is entitled to benefit from the *sui generis* database right implicitly assume a small number of database creators all situated within the European Union.\(^{116}\)

The Directive is unclear on the extent to which database rights can be asserted in a joint compilation with a large number of contributors, some of whom are connected with the European Union and many of whom are not. A forum like Wikipedia simply could not have been in the contemplation of the drafters of the Directive. Thus, it is unclear how the ownership provisions should apply to Web 2.0 interactive communications forums.

The other collective ownership issue that arises in applying the Directive to Wikipedia relates to the identification of one or more databases that might attract the Directive's *sui generis* provisions. Source material for the Directive may or may not satisfy the definition of database and may or may not have sufficient European Union connections depending on the nature of the information and the location and nationality of the contributors. Individual Wikipedia entries, although hosted on Wikipedia's servers in Florida, may


\(^{115}\) Database Directive, supra note 7, at art. 11.2.

\(^{116}\) Id. at art. 11.1 & 11.2.
satisfy the Directive’s definition of “database,” but will likely not often qualify for meaningful protection unless a sufficient number of contributors to the entry are European Union nationals or residents.

Wikipedia as a whole would likely satisfy the definition of a “database” under the Directive, but again would not likely qualify for sue generis database right protection unless a significant number of its contributors were from the European Union. In the event that Wikipedia itself attempted to claim a database right in the encyclopedia, it would potentially face two difficulties. The first difficulty for Wikipedia in asserting a database right would be that it is not itself a firm formed in the European Union or having its principal place of business in the European Union. The second difficulty would be that the European Court of Justice has suggested that a firm that creates a database as part of its ordinary business operations generally cannot satisfy the Article 7 criteria of having made a particular investment in the creation of the database sufficient to support a sue generis database right.

As with the jurisdictional issues, ownership issues are another area in which the Database Directive was drafted with Web 1.0 technologies in mind. The development of more global participatory communications forums characterized by UGC creates new challenges for the Directive in practice. If not for the broad definition of “database” within the Directive, the joint ownership issues may not be so problematic. For example, if “database” had been defined in terms of an aggregation of records such as customer records, supplier records, patient records, financial records, etc., the issue of ownership may well have been easier to resolve. If a database had been defined in terms of particular kinds of information compilations, that more limited definition would likely have limited the universe of potential database right beneficiaries.

IV. CONCLUSIONS

The exercise undertaken in this article — to apply the European Union Database Directive to Wikipedia — is intended as an

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117. Id. at art. 11.2 (“[The sue generis database right] shall also apply to companies and firms formed in accordance with the law of a Member State and having their registered office, central administration or principal place of business within the Community; however, where such a company or firm has only its registered office in the territory of the Community, its operations must be genuinely linked on an ongoing basis with the economy of a Member State.”).

illustration of the difficulties inherent in applying existing intellectual property laws in the Web 2.0 context. While no disputes have yet arisen about the application of the Directive to Wikipedia, this discussion does illustrate the theoretical problems of applying laws developed for Web 1.0 technologies to Web 2.0 forums. As online forums become more interactive and involve exponentially increasing amounts of UGC, laws that focus on activities in particular domestic jurisdictions become difficult to apply. These difficulties are inherent in laws adopted as recently as the late 1990s and intended to counter some of the challenges digital technologies were creating for the legal system at the time. In fact, even the European Union Data Protection Directive, also implemented in 1996, has become dated very quickly in its attempts to protect online privacy.  

Law and policy makers, in reviewing and updating intellectual property and other laws, need to be aware of the specific challenges posed by Web 2.0 technologies. Many of these challenges relate to jurisdictional questions. However, intellectual property law also raises specific issues of joint ownership of online information and of permitted, albeit unauthorized, uses of proprietary online information. These issues are all evident when attempting to apply the European Union’s sui generis database right to Wikipedia.

People who develop and participate in Web 2.0 forums should also do their best to be aware of applicable legal regulations, including those that deal with intellectual property rights. Wikipedia to date has done a reasonably good job of informing contributors about copyright law and the terms and conditions upon which it accepts contributions that may include the work of others. However, Wikipedia — and other Web 2.0 services — should ensure that they regularly update their policies on intellectual property and other online information rights. They should also be aware of the global forum in which they are operating: although, again, Wikipedia does a relatively good job of this in practice.

It may be the case that Web 2.0 technologies necessitate a more general rethinking of appropriate modes of regulation. A number of scholars have suggested that even early Internet technologies require society to recognize the necessity for a multi-modal regulatory approach to online conduct. Professor Lawrence Lessig suggested the

120. See Wikipedia: Copyrights Page, supra note 65.
increasing importance of software code,\textsuperscript{121} along with several other regulatory modalities in cyberspace — including market forces and social norms.\textsuperscript{122} Web 2.0 technologies may require a new emphasis on social norms in particular as regulators because of the community-oriented participatory and interactive nature of these forums.\textsuperscript{123} However, laws as a regulatory mechanism cannot be completely discounted. Despite being dated, many intellectual property and other laws are capable of application in the Web 2.0 environment. Website operators and participants in Web 2.0 forums should undertake best efforts to be informed of potentially applicable laws to avoid infringing others’ online rights where possible.

\textsuperscript{121} See LAWRENCE LESSIG, CODE VERSION 2.0, 5 (2006) ("In real space, we recognize how laws regulate – through constitutions, statutes, and other legal codes. In cyberspace we must understand how a different ‘code’ regulates – how the software and hardware (i.e., the ‘code’ of cyberspace) that make cyberspace what it is also regulate cyberspace as it is.").


\textsuperscript{123} See Hetcher, supra note 5; Lipton, supra note 5.