"OPEN SOURCE" AND PRIVATE ORDERING: A COMMENTARY ON DUSOLLIER

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Professor Séverine Dusollier's perceptive contribution correctly observes that "open source"-style private ordering has emerged (at least in part) as a response to frustration with attempts to achieve legal reform through governmental bodies. Dusollier also gives a creditable account of the legal difficulties that may be associated with copyleft-type licenses.[1] In this brief commentary, I will address some of these legal issues. I will begin, however, by moving beyond the territory that Dusollier covers. Specifically, I wish to emphasize what Dusollier specifically notes she is *not* covering—that is, the extent "open source" principles encompass not simply copyleft contracts, or even law more generally, but reach more deeply into the realm of social and industrial organization.

Open source is a mode of social production just as much as, or perhaps even more than, a particular style of license. At its core, open source is about social production that, in a relatively open manner, draws upon the capabilities of more than one firm or, in the case of academic work, more than one lab.[2] To paraphrase Eric Raymond, the goal is to get "more eyeballs on the problem."[3] In fact, the Open Source Initiative explicitly authorizes many licenses that do not purport to have any copyleft or commons-expanding quality. For this reason, some academics use the term "open and collaborative research" because they wish to emphasize the organization of production and what is done with the results of production, rather than details of licenses.[4]

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1. *See* Séverine Dusollier, *Sharing Access to Intellectual Property Through Private Ordering*, 82 CHI.-KENT L. REV. 1391 (2007).

2. The feature of openness differentiates open-source production from production in (for example) corporate joint ventures.

3. Eric Raymond famously stated that open-source software succeeds because "given enough eyeballs, all bugs are shallow." This maxim is sometimes termed Linus's law (after the creator of Linux.) *See* Linus's Law, http://en.wikipedia.org/wiki/Linus%27_law (last visited Nov. 12, 2007).

4. *See, e.g.*, Arti K. Rai, *"Open and Collaborative" Research: A New Model for Biomedicine*, *in* INTELLECTUAL PROPERTY RIGHTS IN FRONTIER INDUSTRIES: SOFTWARE AND BIOTECHNOLOGY 131, 132 (Robert W. Hahn ed., 2005).

In most open-source communities, a small group of individuals (sometimes just one individual) is responsible for distributing an initial set of code or data. The larger community, led at any given time by a core group, then builds upon this code or data. One mechanism for helping to ensure that collaboration continues to expand is a copyleft-style license. Through copyleft, those who work on a project commit to making improvements available to the collaborative community as a whole. But legal mechanisms are not the only effective means for fostering long-term collaboration. Rather, in the case of a relatively small collaborative community, non-legal, norm-based approaches may work. For example, in the case of open-source bioinformatics software—which is presumably produced by, and for, a relatively small scientific community—empirical work indicates that strong copyleft licensing (e.g., the general public license or "GPL"[5]) is much less common than in open source projects as a whole.[6] Similarly, Josh Lerner and Jean Tirole have shown that the GPL is less common where the software in question is not intended for a large commercial market or where only a specialized community works on it.[7] Various genome annotation projects also use a distributed approach without necessarily relying on copyleft.[8]

Whether this type of Internet-enabled production is truly "new" is debatable.[9] Open source production can involve firm-like hierarchies.[10] Open-source-style private ordering also overlaps substantially with knowledge production in traditional academia—in fact, the main difference from academia is the quasi-hierarchical coordination provided by the person or group who is ascendant in the collaboration at a given point in time.[11] Nonetheless, even as evolution rather than revolution, understanding open source requires much more than an understanding of law.

Indeed, law can sometimes pose, rather than resolve, problems. As Dusollier's paper ably points out, legal-centric, copyleft approaches raise a

5. GNU General Public License Version 2 (June 1991), http://www.gnu.org/licenses/gpl.txt (last visited June 21, 2007).

6. Specifically, as of February 2005, 47.4% of active projects in the "bioinformatics" area of SourceForge used GPL licensing. This compared with 72% of projects in SourceForge as a whole. Unpublished data, on file with author.

7. Josh Lerner & Jean Tirole, *The Scope of Open Source Licensing*, 21 J.L. ECON. & ORG. 20, 31 (2005).

8. *See, e.g.*, BioDAS, http://www.biodas.org (last visited Apr. 30, 2007).

9. *Cf.* Yochai Benkler, *Coase's Penguin, or, Linux and* The Nature of the Firm, 112 YALE L.J. 369, 381–83 (2002) (arguing that Internet-enabled peer production is an alternative to firms and markets but has antecedents).

10. *See* David McGowan, *Legal Implications of Open-Source Software*, 2001 U. ILL. L. REV. 241, 278–81.

11. *See* Rai, *supra* note 4, at 138.

host of issues.[12] I will elaborate on two that pose an immediate challenge, and one that may be more theoretical. The two challenging issues involve, first, the need for an underlying property right and, second, the need for line-drawing based on the economics of the industry. A third more theoretical issue is the possibility of a license anti-commons.

As an initial matter, copyleft requires an underlying property right. Absent such a right, those who wish to impose restrictions must do so entirely through contract. The resulting contractual restrictions can do more damage than good. The recent case of the publicly funded International HapMap project provides a good illustration of the problems associated with using copyleft absent a property right.[13] For a period of time, the HapMap project used a click-wrap license that required those who sought access to data on human genetic variation (so-called single nucleotide polymorphism or "SNP" data) to refrain from combining it with their own proprietary SNP data in order to seek product patents on haplotypes (patterns of SNPs that are inherited together). In order to prevent leakage of the data outside the confines of this clickwrap license to those who would then have no obligation to the HapMap, the license had required those who sought the data to refrain from disseminating such data to anyone who had not agreed to the license. Conventional publication of the data was not possible. This condition is no longer imposed because it is believed that the database has reached a sufficient density to be self-sustaining and to defeat subsequent patent claims. However, the old requirements illustrate the difficulties that may arise where there is no underlying property right.

The HapMap project also illustrates the line-drawing problem that can arise when a copyleft approach is taken outside the context of software. In software, there is no real need for such line-drawing: conventional intellectual property rights are not useful as *incentives* at any stage in the process. But in other industries, where patents may be important as incentives, there is a need to delineate carefully the scope of information that must be put back into the commons. The HapMap license employed a complex and ambiguous licensing policy that appeared to prohibit product patents on haplotypes but allow certain types of process patents.[14]

12. *See* Dusollier, *supra* note 1.

13. The discussion in the next three paragraphs draws heavily from Arti Rai & James Boyle, *Synthetic Biology: Caught Between Property Rights, the Public Domain, and the Commons*, 5 PLOS BIOLOGY 389, 391–92 (2007).

14. *See* Rebecca S. Eisenberg & Arti K. Rai, *Harnessing and Sharing the Benefits of State-Sponsored Research: Intellectual Property Rights and Data Sharing in California's Stem Cell Initiative*, 21 BERKELEY TECH. L.J. 1187, 1207–09 (2006).

A careful drafter may be able to craft language that draws appropriate lines between what materials fall within the commons and what remains outside. For example, the group Biological Innovation for an Open Society, or "BIOS," has licenses that do make these relatively clear and careful distinctions. Under the BIOS license, patents on improvements to the enabling technology—a suite of tools for creating transgenic plants—must be "granted back" and made available to other users of the commons.[15] But patents on end-product transgenic plants are not subject to a grant-back requirement. However, it may not always be possible to draw such clear lines *ex ante*, especially where the technology is very inchoate and could lead in many different directions.

A third objection that sometimes is raised against copyleft licenses is the possibility of conflicting obligations under multiple licenses. This objection may be more theoretical than real, however. In particular areas, there tends to be an informal standard. GPL is often the standard, with Berkeley Software Distribution[16] and Perl Artistic License[17] common in some areas of scientific work.

In sum, although I would argue that open source is more a mechanism of production than a formal set of legal principles, it does raise some interesting, and important, legal issues. Professor Dusollier's paper substantially enriches our understanding of these legal issues.

15. CAMBIA BiOS License for Plant Enabling Technology, § 3, http://www.cambia.org/daisy/PELicense/751/1169.html (last visited June 21, 2007).

16. The BSD License, http://www.opensource.org/licenses/bsd-license.php (last visited June 21, 2007).

17. Perl Artistic License, http://www.perl.com/pub/a/language/misc/Artistic.html (last visited June 21, 2007).