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CONSIDER THIS

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Where (if anywhere) are the Boundaries of the Open Source Concept?

To many that have spent their careers in technology, the concept of open source software seems inside out and upside down. Create a product in order to give it away? Where's the sense in that? How could anyone even suggest such a thing.

From another perspective, it's odd that such a time-honored practice should seem so strange, as we are surrounded by open source practices that have been part of normal society for millennia. If you greeted that contention with a blank stare, consider this...

Simply stated, the concept of open source is that something of value can be created and made available for free under certain conditions, which include the following: anyone can use it (for free), and anyone can change it without restrictions on how, or for what purpose.

It may seem unrealistically altruistic to apply such rules to commercial goods. But if we match these same open source licensing terms up with many established non-commercial systems – such as academic scholarship, the creation of legislation and the application of case law by the courts – they map rather nicely. In each case, something of value is created; that value is made freely available to all; anyone can create new academic work (or laws, or judicial opinions) based on what came before, and the new work product remains free and available. And, like open source, each example is the result of a community effort.

Let's look at knowledge in greater detail as an example. No one "owns" math, science, art history, or any other subject that is taught today. And yet millions of people are engaged in adding to our store of knowledge in these areas. True, someone can copyright the expression of an idea, but she can't copyright the idea itself. Yes, patents can prevent you from implementing a subset of useful ideas, but a patent can't stop you from knowing about those ideas, all of which are public records.

Still, the store of knowledge grows with every passing hour, added to by scientists, philosophers, journalists and others.. More and more of that knowledge is available on the Web, bypassing the need to even spend a few dollars on a book or journal.

So also with law, which resembles open source software even more closely. Under the English common law that forms the foundation for the U.S. and the commonwealth countries (as well as England), judges are required to apply the rulings in prior cases to similar factual settings in future cases, a doctrine called *stare decisis*, which roughly translates as "to abide by decided cases." As with open source, this provides economy through re-use (write up in an opinion/write code once, use many times), certainty and stability of outcome (I know how this trial should come out/ this code will operate reliably), and an expanding pool of knowledgeable practitioners (attorneys and judges/ engineers and integrators).

And yet, like open source software, the law is still allowed to evolve over time – and in real time – either incrementally, or in major releases – as when the legislature passes a new law, or an open source project issues a new release. And all laws are free to be borrowed by one state from another, or by one country from another.

In fact, then, the open source concept is not so strange after all. It just seems so, when we apply it to an area where it was not common before.

Of course, it would be naïve and misleading to deny that there is another thread to human existence, which involves hoarding ideas for personal advantage. That line of conduct stretches forward from shamans and sorcerers, through alchemists and trade guilds, and eventually to modern "intellectual property" laws. Such laws seek to balance the economic interests of those that create such property with the benefit to society that comes from sharing the same value.

In modern times, legal and political theorists have assumed that absent a protected right (i.e., a legal monopoly) to reap payment for the labor of creating an invention or a work of art that such useful items will not come into existence.

But is this necessarily so? If so, why do scientists so often publish rather than patent, and why don't courts that try cases charge litigants a fee to "use" their prior decisions? Moreover, why do hundreds of thousands of entrepreneurs launch new restaurants (most doomed to failure), stores and services each year that have no proprietary protection at all to guard their concepts against imitation?

In fact, as the open source software phenomenon demonstrates, there may be little reason besides history and convention to explain why some categories of ideas can be protected and sold, while others are happily given away. If this is so (and I think that it is), then it should not be a surprise if the open source concept begins to appear not only feasible, but even attractive in areas in addition to software, and in settings that involve not just patents, but copyrights and trade secrets as well.

Such an eventuality becomes ever more likely as more and more vendors adopt business models that are based upon selling goods and services in connection with open source software, thus demonstrating that you don't have to own something in order find opportunities to profit as a result of its being widely used.

In the last several days there have been several stories in the news that highlight this increasing tension between the ownership of intellectual property rights (IPR) and the opportunities that can become available when broader, free access to those rights is made available. In each case, they illustrate a "cross over" of another traditionally for-profit type of intellectual property to an open source model. Call it a general movement towards "open IP."

The three articles that struck me as proving this point best were:

- The announcement by Sun Microsystems that it had released the design for its new UltraSPARC processor under the popular open source, GNU General Public License ([GNU GPL](#));
- A speech by Tim Berners-Lee to an Oxford University audience in which he challenged the British government to make [Ordinance Survey mapping data](#) available at no cost for Web use; and
- The report that a Dutch court had upheld the validity of the [Creative Commons](#) license.

Each of these stories demonstrates a breach in traditional thinking about the balance of value to an IPR owner between licensing intellectual property rights (IPR) for profit, and making those same rights freely and publicly available.

In the case of the Sun announcement, that breach is the transposition of the open source methodology from software to silicon - a genetic leap, if you will, from one species of technology to another. Tim Berners-Lee's challenge, on the other hand, is an example of the increasingly popular concept that "data wants to be free," and that the greatest societal benefit may result from allowing it to be so. And the court victory of the Creative Commons license demonstrates that traditional legal concepts can be adapted to successfully accommodate such new realities.

Notably, none of these pieces of news is, at this point in time, either revolutionary or surprising. Not only did Sun announce its intention to open source its UltraSPARC architecture on [December 6](#) of last year, but IBM had taken a step partway down the same road last summer when it founded an organization that

would allow other companies to influence the architecture of its [venerable PowerPC processor](#). Similarly, Google has already made a wealth of geodata available through its [Google Earth](#) project. That project is already being used in just the type of creative ways (so called "mashups" and more) to which Berners-Lee alluded in his Oxford speech. And finally, the use of the Creative Commons has been expanding logarithmically on the Web for several years now.

What this demonstrates is that the broad concept of open source is extensible into many types of situations, and may be managed in multiple ways. In the first case, the approach has moved from software to chip designs, and the initiative is organized on an open source software project model. In the second case, raw data is involved, and the delivery mechanism is through public (the Ordnance Survey example) or private (the Google example) means, for two entirely different motivations. In the third case, it is works of authorship of all types (literary, music, art, etc.) released by the individual author/owner, who may set the boundaries of that access through the simple means of referring to a specific variation of a publicly available license.

What this shows me is that the envelope of free use and public availability of IPR will continue to be pushed in more and more directions, and managed in more and more novel and situationally appropriate ways. Crucial to this process will be the accumulating evidence in an expanding number of domains that the owners of IPR may gain (indirectly) more by giving than by selling (directly).

This is not as novel as might first be imagined. IPR can be either a means to an end, when the desired end is profit, or it can be the end itself, when the hoped-for result is increased knowledge – IPR for its own sake, if you will. Or it can be somewhere in between, as with academic scholarship which, when it is accepted to be published, benefits the author by meeting the need to "publish or perish."

Similarly, in the first article, while Sun is making its chip design publicly accessible, it will still benefit in other ways, such as lowering the cost of innovation through the efforts of non-employees, and the hoped-for increase in use of the processors it sells.

In the case of the second article, the concept is that data that has been gathered through public funds can become far more useful, and societally beneficial, if it is freely available.

In the final example of the Creative Commons license, the desired end can be indirect profit (e.g., a musician can make her downloads free to the public in order to broaden her fan base, leading to more and better paid performance engagements as well as to royalties for commercial use of the same music) to personal satisfaction, through spreading the author's ideas and reaching kindred spirits (as with this blog) to being part of a like-minded community and the gratification that can be enjoyed through achieving a common goal (e.g., the Wikipedia).

As such examples accumulate in increasingly diverse areas where IPR owners demonstrably gain by giving, it can be assumed that the owners of IPR in still other areas will give thought to how the technique may be adapted to their own IPR assets and situations. At some point, the inevitable tipping point will be reached, following which all types of IPR owners will automatically consider which world they wish their works to live in - open or closed, or in both, depending upon the specific use or user obtaining rights to use the IPR.

Is this inevitable? Personally, I think it is. This is one of those examples where the Internet really *has* "changed everything."

How? It would be too simplistic to point simply to the "network effect" (i.e., the value of the network increases exponentially with the number of users that are connected to it) as the cause. As significant, or more, are the number and types of activities that become possible, or practical, only through an affordable network of global scale, and free rights of participation.

I strongly doubt that the open source concept will be applied to every area of endeavor, or that it will predominate in every area where it is applied. But I also believe that we may be surprised at some of the areas not yet imagined where it springs up next.

It will be interesting to track the spread of the open concept into such new domains. Decades from now, researchers will certainly study this era to puzzle out how and why what happened, in fact, happened. Why did it spread to this new domain and not that, and why in that particular order? What impact did new developments, such as the implementation of the Semantic Web have? Did new developments merely accelerate the trend, or did they enable the concept of "open IPR" to enter into areas that would not otherwise have opted in, because the value proposition could not shift in that area until better tools were available?

At the end of the day, is this really all so surprising? Really, I think not. It just takes us longer to connect some dots than others.

Comments? updegrove@consortiuminfo.org

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