

# The Politics of Information

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DEAR READER,

This is the PDF version of my blog. As of this writing, it is supremely sparse. But since my blog—like many others—is expressing a unified worldview, it makes sense to stitch together the posts to form a coherent narrative, which is still easier on paper than via the standard blog format. You can think of this as serialized nonfiction, since I’ve already written about thirty or forty pages, but am doling them out only a few pages at a time.

Or, you can think of this as a means of reading the blog in those locations that don’t have Internet access, such as the bus, subway, or bathroom.

# THE FUNDAMENTALS

## 1.1 Why patents?

13 February 2008

We might as well begin at the beginning: the U.S. Constitution, which is very clear about why patents may be granted [Art. I, §1(8)]:

The Congress shall have power to [...] promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

So right there in the Constitution we see why patents are granted: to promote the progress of science and useful arts.

The simplest way to explain it is that patents are an after-the-fact research grant. Because writers and researchers in many fields may spend years working on a single, simple output, we grant them a limited monopoly in their work so that they can recoup the costs of production.

Or more simply, patents are a market intervention by the government to overcome a certain situation where the market can't function without intervention. I'll have much more on this later.

Thomas Jefferson, who had the main rôle in writing the patent clause, was clear in his understanding that patents are a monopoly—in one letter, he used the term “the embarrassment of an exclusive patent.” Section II of the write-up of *Graham v John Deere* goes into great detail on the evolution of Jefferson's beliefs, and how clearly he understood that patents are a limited monopoly to be granted for the evocation of innovation.

It seems so easy, yet many people impart a great deal of meaning on the patent. Some compare it a little too closely to ordinary property, and presume that a mechanical or chemical design can be “found” like a nickel on the street, and the first person to find it is the owner of the design, and gets to charge others for its use under the “finders keepers” doctrine.

Others take this even further and make an ethical case: the first to discover a new chemical *deserves* ownership of the design. You often see this in claims of patent infringement, which often read more like a tirade that the patent-holder's daughter was wronged than a statement that a limited monopoly was infringed. For example, in this

press release<sup>1</sup>, competitors are “misappropriating” technology, even though they may have independently developed the system [More on this later]. “These patents [...] will be utilized to provide the shareholders with the value they deserve.”

The Constitution’s authors (with TJ in the lead) did good with the clause above that disregards the natural-rights theory and the moral rights theories of intellectual property law, because ethical arguments just don’t go anywhere. Does the second-to-invent deserve a share of the patent or deserve to get sued? It rubs most people the wrong way to think that laws of nature, such as the law of gravity or mathematical formulæ, could be held in a limited monopoly by one person, and that we’d have to pay to make use of them. That is, there are ethical arguments against patenting laws of nature, even though others comfortably make ethical arguments supporting the same. And whether the shareholders of the above stock deserve to be paid is more a question for their family, friends, and religious leaders than for the Patent and Trademark Office.

Let me mention one company that gets it right: Microsoft. When you dig up direct statements from Steve Ballmer or Bill Gates, you find that they frame the whole patent thing entirely in terms of a game that businesses have to play. There’s no claim (that I’ve seen) that the game makes for a better world, or ethical claims about Microsoft owning or deserving anything. They simply point out that there’s a law that dictates that a game must be played, and that some people play the game willingly and some people are going to get forced into playing.

I’ll conclude with an emphatic re-statement of my original claim: patents are intended to promote the progress of science and the useful arts, and the U.S. government does not have the power to grant them for any other use. But the restatement won’t be mine, it will be from Justice Clark’s decision in the above-mentioned Supreme Court case of *Graham v. John Deere* [383 U.S. 1 (1966)], regarding the “promote the progress” clause:

The clause is both a grant of power and a limitation. This qualified authority, unlike the power often exercised in the sixteenth and seventeenth centuries by the English Crown, is limited to the promotion of advances in the “useful arts.” It was written against the backdrop of the practices - eventually curtailed by the Statute of Monopolies - of the Crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public. [...] The Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose. Nor may it enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby. [...] This is the standard expressed in the Constitution and it may not be ignored.

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<sup>1</sup>[http://www.foxbusiness.com/markets/industries/industrials/article/voip-eyes-patent-infringers-uspto6501837\\_475509\\_6.html](http://www.foxbusiness.com/markets/industries/industrials/article/voip-eyes-patent-infringers-uspto6501837_475509_6.html)

## 1.2 Disclosure

27 February 2008

One of the oft-cited stories behind patents is that they are a contract for disclosure. The inventor could have kept her<sup>2</sup> invention a secret, but the government offers her a deal that if she reveals her technology so others can learn from it, then the government will give her a limited monopoly for twenty years (from the date of application).

This is not a fundamental reason for patent law. It's icing. The fundamental reason is the ex-post research grant I'd mentioned earlier.

Which is a good thing, because the disclosure story really only works in theory.

Those of you in technical fields can verify this through introspection: when you last worked on a project, did you first check the journals or the Patent Office? Did it even occur to you to learn from patents? You can search sites of technical working papers, like arxiv.org, for patent references, and you'll find a handful, but a handful of references out of hundreds of thousands of patents is not very impressive. If the patent record were a journal, the journal's impact factor would be right around zero.<sup>3</sup>

Firms in all industries tend not to search patent databases for technological instruction. Arora et al. [2003] state that "patent disclosures appeared to have no measurable impact on information flows from other firms, and therefore no measurable effect on R&D productivity." [p 17] Arundel [2001] finds that "a consistent result in survey research on the use of patent databases is that they are among the least important external information sources available to firms."

**Software: even less disclosure** Campbell-Kelly [2005] wrote a paper whose title typifies pro-software patent research: "Not All Bad: An Historical Perspective on Software Patents." His primary argument for why software patents aren't all bad is that patents set a disclosure requirement.

But disclosure is even less functional in software than for general industries.

For example, Campbell-Kelly cites the algorithm for LZW (Lempel-Ziv-Welch) encoding as a success story for patents. However, as Campbell-Kelly notes, Terry Welch had published the algorithm in a peer-reviewed journal within a few months of applying for the patent, but years before receiving it [Welch, 1984]. If Mr Welch had truly wanted to keep the LZW algorithm a trade secret should patent protection be unavailable, then he would have waited for the ink on his patent application to dry before publishing the algorithm.

In *Northern Telecom v. Datapoint*,<sup>4</sup> the CAFC ruled that writing source code—in fact, authoring anything more detailed than the broad flowchart describing the overall logic of the design—is a "mere clerical function." So the court has stated that the

<sup>2</sup>Following a suggestion by Thomson [2001], I have chosen the gender of representative agents in this book by flipping a coin.

<sup>3</sup>Now, patents themselves cite prior patents all the time. Patent attorneys, as opposed to inventors, are no doubt learning up a storm from the patents they are reading all day long. But to say that patents are intended to educate attorneys writing other patents is ingrown logic, to say the least. There's still that disconnect between the people writing and learning from patents and the people who are at work developing new technology.

<sup>4</sup>908 F.2d 931, 940–41 (1990).

requirements for patents (what they call the *enablement requirement*) are not much more than you can find by poking at a copy of the program for a while.

Mann and Sager [2005] interviewed software technologists and found that the apathy toward learning from patents revealed by the general surveys is evident in software as well: “. . . *none* of the startup firms to which I spoke suggested a practice of doing [patent] searches before beginning development of their products.” [p 1004, italics in original.]

And gosh, have you ever looked at a patent? It is a terrible way to teach others. I’ve read many a debate where some people having ordinary skill in the art look at a patent and declare it obvious and generally idiotic. Eventually, a patent examiner pipes up that the document is written in a technical language that laypeople outside the patent field are not trained to read. Looking at any patent, you can see that this is definitely true. It’d be difficult indeed to have a document that is both a legal declaration of a limited monopoly and a technical document for teaching fellow engineers. The teaching part takes a definite backseat to the legal declaration.<sup>5</sup>

So the disclosure story is an interesting theoretical anomaly: it makes intuitive sense on a broad scale, but we know both from looking around and from careful analysis of survey data that the broad intuition just doesn’t play out here in the real world. And yet people keep referring to it, because the broad concept makes sense.

So I won’t mention disclosure further, but will stick to the other, actually functioning, stories for why patents exist.

### 1.3 A comparison of copyrights and patents

10 March 2008

The average person on the street will tell you that copyright is for printed creative works like text, paintings, or musical compositions, while patents are for functional physical devices and processes.

But here in the modern day, that basic intuition just doesn’t match up with the reality of U.S. law. The two regimes have been growing closer over the last few decades, which means that the things that some think of as the key distinction between the two are not much of a distinction anymore, while other features are of increasing importance.

**Subject matter** There are an awful lot of types of work that could be covered by either system. In the *absurdist plays* section of my bookshelf, I’ve got a copy of *Endgame* by Beckett [1958]. Although it is plain text, it is a series of instructions for actors, comparable to a series of instructions for people on an assembly line. If you’d

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<sup>5</sup>It is possible that after a patent is granted, the author then proceeds to produce a journal article. But you need a story beyond economics for why the journal article is getting written. No patent is a perfect monopoly, so the more information you give your competitor, the more power they have to invent around your work. So there are stories where disclosure plus journal publication work, but they partially advocate against the entire concept of patents (because the typical inventor really wants to show off and score publications) and I’ve seen no evidence that they dwarf the lack of evidence of benefits from disclosure up there in the main text.

like to excise words entirely, the publishers added a short bonus play, entitled *Act without words: A mime for one player*. The stage directions are text, but are entirely about how props or the actor should move, to achieve a final goal [which I take to be demonstrating learned helplessness to the audience, but I'm sure Beckett had something much broader in mind].

In fact, for any plain information, there is some sort of physical medium upon which the information is recorded, be it a piece of paper, a computer's hard drive, or your brain's neurons. In the last decade or so, the U.S. courts have ruled that that physical medium makes the information patentable. The key ruling on this one is *In re Lowry*, which is for a data structure on a computer. "More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory." There used to be a *printed matter doctrine* that states that you can't patent a surface (paper, a ribbon) just because the information written thereon is useful; Knight [2004] argues that under current law, the printed matter doctrine has been eliminated, and I agree.

Right now, the courts are scrambling to draw some sort of line to say that tax loopholes, plays, and musical compositions are not patentable, and I'm sure that six months from now such a line will exist. But in the mean time, for things that could be expressed as text on some sort of medium, the difference between copyrights and patents largely lies elsewhere.

**Duration** Patents provide a limited monopoly for twenty years from the date of filing. The exact duration of copyright has many conditions and exceptions, so here I'll just say that it's in the ballpark of a hundred years. As we'll see below, it somewhat makes sense that patents should expire much more quickly, because they offer greater power.

The economic life of most works, fictional or functional, is under twenty years anyway, so for most works the duration of both types of protection is the entire economic life of the product. Many works do shine for much longer than twenty years, but for most products we must again look elsewhere for the big difference between patents and copyright.

**Scope** I've seen many people state that copyright covers only the literal text of a work, while patents cover the broad idea. Both halves of that statement aren't quite correct. When something could be covered by both copyright and patent, the scope of the two forms of coverage are increasingly convergent.

On the copyright side, consider fan fiction. Many people enjoy writing stories based on their favorite fictional characters, usually involving some number of them fornicating with each other. They use the name and characteristics of characters from a published work, but every other word in the text is entirely their own. There is minimal literal copying, if any. The lawyers call this sort of thing a *derivative work*, and it violates copyright as much as would a direct copy of the original work. See the Chilling Effects Fanfic FAQ<sup>6</sup> for examples and details.

So the scope of copyright is a little more patent-like than it is often made out to be. In a software context, if party B sees party A's code written in FORTRAN, and then produces a similar program in Java, then party A has decent odds of claiming the

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<sup>6</sup><http://www.chillingeffects.org/fanfic/faq.cgi>

Java code is a derivative work and therefore infringing copyright. This sort of dispute sometimes crops up when employees jump from one company to another.

Meanwhile, patents don't cover pure ideas, but their implementation. This is good because it allows future designers to re-implement the same idea using new methods; this is known as *inventing around* a patent, and is generally credited as a positive side-effect of patents, because future designers are forced to think hard about a problem where they otherwise would have just copied the other guys. So patents are not for ideas, but the current implementation, which sounds roughly like the scope of copyright.

[For software, the implementation is very broadly construed, because courts have ruled that the actual process of writing code is a "mere clerical function." It's not often that a ruling insults an entire industry of people; in this case doing so even creates problems, because calling working programmers a bunch of code monkeys and denying any creativity in code design leaves little latitude to work around a software patent. But in theory, if a patent should "wholly pre-empt" a mathematical algorithm, then the courts say that it shouldn't be granted.]

So for a product that is primarily expressed in text, the differences in breadth of coverage between copyright and patent are not nearly as large as many make it out to be. Neither is intended to cover solely the literal text as typed by the original author, and neither is intended to cover the underlying ideas.

**Registration** Copyrights are automatic: the text you are reading is copyrighted by the simple act of my writing it down. The Library of Congress offers a registration system, but works aren't examined in the process, but just cataloged and possibly shelved.

The Patent Office, however, tears patent applications apart. The examiner is expected to find the prior literature, determine exactly how the application differs from the prior literature, determine whether the application's improvement is obvious to a person having ordinary skill in the art, and otherwise run the application through a long series of tests.

Finally, we have a night-and-day distinction between the two systems. The distinction means that copyrights are going to be a lightweight system, in the sense that the Library of Congress has one not-very-large department devoted to administration, gaining a copyright is literally costless (and full registration is on the order of fifty bucks), and no lawyers are involved. Patents are at the other extreme: the number of patent examiners is constantly growing, patent applications go through several layers of examination, and you can maybe do it for cheap, but don't expect to get anything useful and enforceable out of the process without the services of an attorney.

The difference in registration processes can partly be explained by the different powers granted by a patent or a copyright, which brings us to one more major difference...

**Independent invention** You can only be held liable for copyright infringement if you have seen a work and copied it. For most copyrighted works, it's pretty easy to identify direct copying anyway—if you're writing fiction about Superman and Wonder Woman going on a date, then you've definitely been directly exposed to both characters

as drawn by DC Comics. If you worked at a company that writes programs for dentist's office administration, and then quit and start up a business that sells a program for administering dentist's offices, then your old employer would have an easy time demonstrating your access to the original program if the need arises.

Conversely, independent invention is not a valid defense against claims of patent infringement. If your work matches a patent that you've never seen or heard of, then you can be sued. It's that simple.

So copyright infringement requires direct imitation, while a patent holder can sue people who have never seen the patent or heard of the patent holder. This has major effects, which I'll pick up on next time.

## 1.4 Independent invention

7 April 2008

Independent invention is not a valid defense against claims of patent infringement. And that, dear reader, is the Achilles's Heel of patent law.

This is not to say that all of patent law will inevitably suffer a downfall [to the Paris Convention?], but that the independent invention problem is an important consideration that advises when patent law is or is not appropriate.

By independent invention, I mean that a second party invents whatever a first party had patented, without knowledge of the first party's activity. The second party, without knowing that it had done anything wrong, is liable for patent infringement.

From this NYT article<sup>7</sup>: "It's rare that you've got a major breakthrough that wasn't developed by multiple people at about the same time," said Mark Lemley, professor of intellectual property at Stanford Law School.

On both an ethical and economic level, liability for independent invention is a problem. Imagine that you have put great effort into developing a new technology, start marketing it, and then get a letter in the mail telling you that another party has already obtained a patent on your work, and you now owe them money for putting out the product you've developed. There you were, minding your own business, not copying anybody, and now you suddenly owe a stranger perhaps millions of dollars. Ethically, it is hard to justify the justice of the situation.

In terms of promoting progress, if you know there's some chance that you could be doing extensive research that winds up in a product that you not only can't use, but which is a legal liability, then that's an incentive to avoid exploring new technologies.<sup>8</sup>

There's an incentive to patent inventions that are likely to be re-invented, because then you can sue the latecomer for \$\$\$\$. But why is the government providing ex

<sup>7</sup>[http://www.nytimes.com/2008/03/30/weekinreview/30richtel.html?\\_r=1&ex=1364702400&en=65d7a2ccf34383c1&ei=5090&partner=rssuserland&emc=rss&oref=slogin](http://www.nytimes.com/2008/03/30/weekinreview/30richtel.html?_r=1&ex=1364702400&en=65d7a2ccf34383c1&ei=5090&partner=rssuserland&emc=rss&oref=slogin)

<sup>8</sup>There is the related idea of the *patent race*, that if you think others might develop a technology, then you have a strong incentive to work harder and develop it first. The hypothesis has many variables that are hard to measure, meaning that I know of no empirical studies that find real-world evidence that patent races help. The theoretical literature is split, because having two parties duplicating effort on the same problem is not necessarily socially efficient.

post research grants for inventions that are going to be re-invented by other parties without any government help? Patents can promote progress, but not via liability due to independent re-invention.

There are common counterarguments to why the problem of independent invention isn't really a problem. The first is that such a problem should be marginal: one could think of the still-extant restrictions on what is patentable (that it be novel and non-obvious) as basically requiring that the invention be unlikely to be independently re-invented. The obviousness standard isn't actually keyed to minimizing independent invention, and I haven't seen anybody talk about making that happen, so that doesn't get us far: examples of independent re-invention abound.

The other main argument is that the independent inventor shoulda known. We assume that patents are in the public record, and therefore everybody in the field should be aware of the state of technology. If you are a researcher, it is basically mandated by law that you check in with progress at the Patent Office on a regular basis. Corporations in patent-relevant fields are well aware of this and accept it as a cost of business.

The presumption of public knowledge means that there is no opt-out from patent law. If you are in a field that has patents, you can't just say you don't care about patents, won't apply for your own, and won't imitate products with a patent number stamped to their underside. That's not enough to get you clear of the USPTO's influence, because you could still independently invent a patented item and thus face liability.

Now, in a prior episode (p

Oh, and patents are kept secret in the USA for 18 months. That way, if an applicant wants to change its mind and keep its invention a trade secret, it can. There's a never-ending debate about this one. On the one hand, this option makes for a hard choice if you don't get an initial reply from the patent office until after the 18 months have passed (which is perfectly possible given the current backlog). On the other, some think that it's silly that we have to wait even 18 months, because in 17 months, a company could invent something and begin marketing it widely, and then get hit with liability (or at least major business hassle and costs) even though the company followed 100% of the rules. That is, even this relatively short secret period exacerbates the problem of independent invention.

[By the way, the disclosure rule is an attempt to harmonize with other countries' laws, so if you promise to not file for patents in other countries, you can have the USPTO keep your invention secret right until the final patent granting perhaps several years in the future.]

So liability from independent re-invention is an unpleasant side-effect of the system, that is hard to justify both ethically and economically. If you could design our patent system all over again, you'd probably want to take care to ensure that the likelihood of independent re-invention is minimized.

**Millions of independent inventors** What if the 'industry' is everywhere? Literature is written by lots of people all over the place. There's no literature convention where everybody has to meet up. It's downright silly to expect that every novel author is abreast with the works of every other, even within a narrowly-defined genre. If storylines were patentable, we would certainly see a long stream of lawsuits against defendant authors who had never heard of or read the work of the plaintiff author. There simply aren't

enough patent attorneys to handle the amount of due diligence that would be required to verify that all of the stories being written don't infringe an unknown patent.

What if there were only twenty storyline patents, and they were all really awesome? Every one of them is stupendously inventive. Well, that wouldn't change much, because every author would still have to check in with a patent attorney to see if their new work happens to have hit upon something patented. The attorneys would have an easier job, and could stamp 90% of new storylines as non-infringing pretty quickly, but the costs of a quick consultation with an attorney for every story published in the USA would still be pretty astronomical.

The result, if storylines were patentable, would probably be that most people just wouldn't bother to clear their work, and would just hope the risk goes away. Some number of them would eventually independently infringe even the most creative storyline, and the patent-holders would have an easy time of finding infringing stories at the local bookstore. Lawsuits would ensue. Lots of people would question why it is that we have literature patents anyway. Patent attorneys would repeatedly state that patents foster innovation, period, and refuse to hear discussion otherwise.

That is that state of software patents.

The software industry is indeed massively decentralized: just about every corporation in the country has an information technology department that is producing software that is sufficiently innovative that it could be infringing a patent. How do we know? Because there have been software patent infringement suits against the Green Bay Packers, OfficeMax, Walgreen's, Linens 'n' Things, the Washington Post, and a host of others; see the End Software Patents project's litany of lawsuits<sup>9</sup>.

There are a number of potential resolutions, none of which point to promoting the progress. The 'shoulda known' approach would be to say that if you have a web site, then it's your obligation to hire a patent attorney to clear the site. Sure, there are a hundred million web sites out there, but that just means that we need to have more patent attorneys.

Another resolution would be to centralize all production. The trouble with both the literature and the software market is that the only qualifications you need for trying to write something is a cheap PC and a half-decent facility with language. Here's a father telling the story of how he helped his 6-year old write a new computer game<sup>10</sup>. We could fix the independent invention problem by dictating that all work must be done by a centralized organization, maybe IBM, and everybody else may have scope only to use the software in limited, non-innovative ways. IBM offers indemnification and has the legal staff to take care of things, and as long as users everywhere else don't get a sudden urge to experiment, everything is fine.

This may sound like a joke, but it is to some extent the logical conclusion, and where we could wind up. As above, not everybody is going to get sued. Instead, some get sued, and everybody else gets scared, and eventually fires their IT department and re-hires it as an IBM-backed consulting company that can offer indemnification. This outcome certainly serves the legal industry and IBM well, but I'm not convinced that it promotes progress or is what many programmers actually want.

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<sup>9</sup><http://endsoftpatents.org/a-litany-of-lawsuits>

<sup>10</sup>[http://davidbau.com/archives/2005/07/29/haaarg\\_world.html](http://davidbau.com/archives/2005/07/29/haaarg_world.html)

I really don't know how to resolve the problem of independent invention with respect to software, literature, or other activities that really just require a brain and a writing implement. But it shows is that the mantra "patents promote innovation" needs qualification. For example, there are few people who truly believe that patents would promote innovation in storylines or artistic works, and there are many contexts where the trouble of independent re-invention swamps the research benefits provided by a limited monopoly. It is much more reasonable to say that patents promote progress in some contexts, but not all.

## 2.1 The legality of absinthe

21 April 2008

I finally got some absinthe last week.

There are many types. Like many liqueurs, it is basically just an infusion of a few pleasantly-flavored plants in grain alcohol. Being grain alcohol, it is about 50% alcohol by volume, but you water it down. Now, when watering it down, it goes from grain alcohol clarity to the opacity of milk. This is fun, and there is a little ritual built around the process, typically involving a sugar cube perched on top of the glass. Having a ritual associated with a social beverage is a big perk, and probably has had some hand in making absinthe so popular. [I also have a full tea set, and get great enjoyment from the process of pouring water from the kettle to the teapot to the ocean of tea to the sniffer cup to the tea cup.]

But you know the real reason absinthe is famous: wormwood, which has a chemical known as thujone. I have no idea what the effect of thujone is on the human brain; I get the impression that nobody else does either. Some commenters have said that it's something of a stimulant, so absinthe is a bit like having a black Russian (i.e., vodka + coffee), but I'm not sure if even this much effect has verifiable evidence behind it. As above, it's 50% alcohol straight, is watered down, and is heavily spiced, which all adds up to being able to drink a lot of alcohol without tasting it. Having such an easy means of drinking quite a bit of booze without knowing it is already enough of a recipe for loopy behavior, without recourse to obscure chemicals.

Absinthe was a scapegoat of the temperance movement, and was banned in both the USA and Europe. I don't have the exact history—the USA obviously spent the '20s banning a lot more than just absinthe—but as we rolled in to the new millennium, thujone was banned (sort of) in both the USA and EU.

You may have read that absinthe is now legal in the USA. What changed in the law?

Nothing. Nothing at all.

The most credible source I've found to this point has been an egghead-oriented site on mind-altering substances named Erowid<sup>1</sup>, and this interview<sup>2</sup> with a lawyer involved with an effort to import absinthe into the USA.

<sup>1</sup>[http://www.erowid.org/chemicals/absinthe/absinthe\\_law1.shtml](http://www.erowid.org/chemicals/absinthe/absinthe_law1.shtml)

<sup>2</sup><http://www.oxygenee.com/absinthe-america/legalization.html>

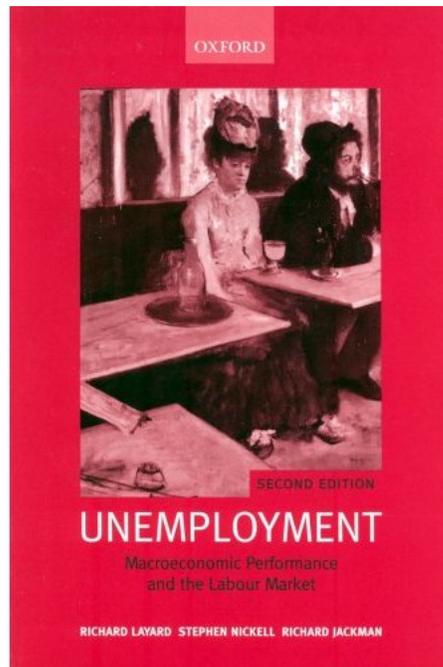


Figure 2.1: My favorite textbook on labor theory.

From what I gather, thujone is banned, but the test used for checking for thujone is not very sensitive, which opens the question of what to do with beverages with low thujone levels; the decision was eventually made that they are OK.

Beyond the thujone issue, the Alcohol and Tobacco Tax and Trade Bureau (TTB) felt that the word *absinthe* was a drug term, and therefore could not be used to sell a product. This was basically an arbitrary opinion of the bureau, and was eventually arbitrarily reversed.

With those roadblocks eliminated, absinthe was once again legal for import and sale.

**The “law”** The anecdote is an interesting demonstration of how often law is entirely unclear. We like to think that there’s a list of regulations out there, and they tell the world’s bureaucrats what to do or not do, and it’s all very simple. In most cases, it really is that simple. But then there are those other cases where it’s hard to tell exactly where to draw the line, or what authority the individual bureaucrat has.

After all, Congress (or the head of any organization) can’t possibly dictate everything that every bureaucrat all the way down the chain will do with his or her hands. In any organization, the top sets broad rules, and grants limited authority to the individuals at the lower levels who will make up whatever needs to be made up along the way.

The patent office is especially prone to the conflict between top-down law and bottom-up rulemaking, because patents are a technical field and most of the distinctions to be made are fine line-drawing rather than night-and-day. Under the clearest of rules, we would expect that some applications would still be considered novel and non-obvious by one examiner and rejected by another.

Further, patent law is, more than other fields of law, decided by judicial rulings, not by the U.S. Code. Congress hasn’t bothered to touch the law for patents in any significant way since 1952, and you can see why from the massive, ineffective effort that has been the Patent Reform Act of 2008. Instead, we have centuries’ worth of rulings, each about a single test patent (sometimes several), and a resulting rule based on the test patent regarding how to draw the line between the patentable and unpatentable. Judges try to be careful, but it’s common enough that two rulings will contradict each other.

Naturally, there are many efforts and mechanisms to create standardization, and there is largely one patent law. For example, there is a Manual of Patent Examination Procedure (not written by anybody in Congress or the courts) that examiners are expected to follow with perfect uniformity. But to a great extent, the concept of one patent law is just a convenient fiction, and every examiner has a slightly different concept of what’s going on. As with the change in opinions regarding absinthe, things can go from illegal to legal with just a change of opinion by a bureaucrat somewhere along the chain. That’s how it is with a law built from the ground up on judgment calls like what is novel and non-obvious, and how it always will be.

## 2.2 How strict constructionism can be judicial activism

16 February 2007

This is a note on the term ‘judicial activism’, which is misused in subtle ways among pundits and politicians.

The key to how it is misused is the ambiguity of the terms liberal and conservative. I count five (5) distinct uses of these terms.

The first three are familiar to everybody. There’s the liberal/conservative scale regarding change in general, where the L team is forward-looking and the C team seeks stability. There’s the social scale, where liberals believe people should be left to do what they want, and conservatives seek a social order reminiscent of Norman Rockwell paintings. There’s the economic scale, where liberals believe some social services are necessary, and conservatives seek smaller government.

These three scales are only tenuously related. It is easy to find futurist social conservatives, social liberals for smaller government (aka libertarians), and any other combination of the above. But, with only the words *liberal* and *conservative* used for all three axes, there’s a strong—and clearly false—implication that one who is liberal on one axis is liberal on the others.

That said, let us move on to judges. Judges are often described as *constructionists* or *activists*, as if there is a single axis along which we measure judges. But as with liberal/conservative, it confounds a couple of concepts and just creates confusion. So, let’s make some definitions.

**Constructionism** There are two components to a law: the statute in the Constitution or as passed by Congress, and the interpretation of the statute by courts who had to contend with the law. One school of thought, *strict constructionism*, contends that one should focus as much as possible only on the statute as written, rather than subsequent interpretation. Congress wrote what it darn well intended the law to be, so why should later judges and pundits modify that intent?

The constructionist view bears much in common with the neoclassical economist’s viewpoint, that people are very rational and very capable of foreseeing the future. To the extent that this is correct, the constructionist claim (that Congress wrote what it intended the future to look like) works.

I work with patents, and patents are an excellent example of how constructionism and the hyperrational assumption can go horribly wrong. Thomas Jefferson wrote what is now 35 USC §101 (inventions patentable), and it hasn’t even been looked at since 1952. So: did the 1952 Congress, or Thomas Jefferson, intend that web page designs should be patentable? Even the Psychic Hotline would have difficulty with such a question, yet a strict constructionist has a simple answer: yes, they did intend so, because they would have said so otherwise.

The alternative is to look at more recent rulings and try to conform with those. My impression is that this is the modal type of judge: they try to rule in conformance with the law, but that includes equal measures constitution/statute and recent rulings. Let us call this the developmentalist approach; some call it the activist approach. The

language typically used sets constructionist = conservative and activist = liberal.

As an aside, the constructionist view toward the U.S. Constitution is often characterized as interpreting the constitution the way the Founding Fathers intended it. But this is an incorrect phrasing. Jefferson again: “No society can make a perpetual constitution, or even a perpetual law. The earth belongs always to the living generation.” [Letter to James Madison, 6 Sept 1789] The statement ‘I am a strict constructionist, because I interpret the law the way a set of developmentalists did in 1776’ is somewhere between incoherent and ridiculous. Rather, the sane strict constitutional constructionist generally shoots for a direct reading of the words as written, outside of the context of colonial times.

*Stare decisis* This is legal Latin for “to stand by things decided”. That is, if judges past have decided that the law of the land is *X*, then ya don’t change it to *Y* unless there’s a darn good reason.

Different judges interpret the phrase *darn good reason* differently. Some overturn past rulings at the drop of a legal hat; others steadfastly stand by the past rulings, and just mumble something about ‘it’s a bad law, but it’s Congress’s job to change it’ in rulings that they aren’t happy writing.

There are two pairs of terms used to describe a judge’s attitude toward *stare decisis*. The first is liberal/conservative and the other is constructionist/activist, and once again, both pairs of terms don’t correspond to any of the above uses of these terms.

There are four possible combinations of liberal/conservative in the context of statute and *stare decisis*, and it’s worth going over all four, because they reveal an important asymmetry.

It may happen that the law as currently interpreted differs significantly from the law as written. This is common for a law written decades ago, due to simple drift in conditions and legal understanding. The first option in this case is to be a statute liberal and a *stare decisis* conservative. That is, a judge could be a conservative in the sense of maintaining the status quo.

When there is a difference between the status quo and the original statute from times past, it is impossible to simultaneously be conservative with regards to both. Of course, this doesn’t keep many judges from trying.

The next possibility is for a judge to be liberal with regards to both statute and *stare decisis*. Such a judge really is just making up the law. You won’t find a judge anywhere who claims such a position, though there’s endless debate as to whether some judges act like this. Therein lies the asymmetry between liberal and conservative: conservative on both scales is OK but usually impossible, but liberal on both scales is an abuse of judicial power.

The next option is to be a statute liberal and a *stare decisis* conservative. There are people like this in many contexts: folks who insist that the U.S.A. once had a decidedly Christian government (a claim that is itself up for dispute) and therefore the present government should be devoutly Christian as well; folks who insist that the only good music is the kind they heard in high school; folks who insist that all families must consist of a mother, father, and at least two children because that’s how it had to be on the farm. Such people are radically liberal, in the sense that they oppose the status quo

in favor of something different, which happens to have been the status quo at one point in the past.

Judges of this type are often called judicially conservative. Yup, a judge who rules for changing the status quo when faced with a conflict between statute and rulings is called judicially conservative, and a judge who prefers to maintain the status quo is typically called judicially liberal. It's things like this that make people learning English as a second language hate it so much.



Figure 2.2: To revert to the means of judging in times past would be a radical, jarring change from the present. [Painting credit: Raphael: *The Judgement of Solomon*, c. 1518-19]

Patent law is a good example of judicial conservatism/status quo liberalism. The circuit judge who decided that software and business methods should be patentable (Judge Giles Rich) was very vehemently constructionist in citing statute and reading it as literally as possible. As such, he was massively activist, because he overturned a century's worth of *stare decisis*, including several rulings from the Supreme Court.

You know I am not happy with Judge Rich's ruling, but there are other cases of activist constructionists, the most salient being those who ruled in *Brown v Board of Education*, whom we all love to death. So even after we have acknowledged that the scales of liberal/conservative with respect to statute and liberal/conservative with respect to *stare decisis* are entirely different scales, and after we've pegged a judge on

both, we still won't know whether their rulings are liberal/conservative with respect to the social and economic scales that people actually care about.

**Gay marriage** The term activist judge<sup>3</sup> has been bandied about by certain individuals, invariably as a derogatory term, but without clarifying to which of the above two sometimes contradictory definitions the speaker is referring. But the confusion is typically deliberate, and implies that any activism in the sense of interpreting laws based on judicial understanding must be of the radical form of arbitrarily revising law.

[ The activism question often comes up in judicial hearings as well, where judges often attempt to characterize themselves as strict constructionists, implying that this is a good thing. But it seems preeminently clear that a good judge makes an effort to balance statute and recent rulings in every situation. The Constitution just doesn't say anything about computer-generated pedopæliac images<sup>4</sup>, so for a judge to claim that he considers only the constitution in deciding such an issue is to say that the judge feels at liberty to just make stuff up.]

Not to accuse President Bush of simplistic thinking, but to say that any judge that does not strictly follow statute is rewriting the law is simplistic. Such a claim only works when the law as written is entirely and perfectly appropriate to all situations, even decades later—and remember that a case appears before a higher court only when there is some sort of open question, ambiguity, or controversy about the law as written. Thus, any high court judge that isn't braindead is an activist in the first sense of re-interpreting statute as written; if we insist that that means activist in the sense of inventing law, then we can only conclude that all judges are activist in the derogatory 'hijacking the law' sense used by folks such as the guy linked above.

But why be abstract when we have an easy example? The term 'activist judge' is the term preferred by people complaining about gay marriage. The big ruling in the gay marriage issue was *Goodridge v Department of Health*, which was the ruling in Massachusetts that allowed same-sex civil unions—and did so via an allegedly strict constructionist reading of the equal protection clause in the MA constitution, no less.

With regards to statute, there is clearly ambiguity because nobody ever bothered to strictly define the meaning of marriage, just as Jefferson didn't specify whether web pages should be patentable. You could ask what the word *marriage* meant in 1776, in which case you'd probably find gay marriage was not intended by the law—and neither was marriage between whites and nonwhites.

As for overturning *stare decisis*, I'm no expert on MA marriage precedent, but giving a casual look 'round, I am unable to find claims that *Goodridge* was in contradiction of past court rulings. For so many claims that this is an activist court, you'd think somebody would find the ruling that they were supposedly contradicting. Rather, marriage law in the U.S.A. has been a slow slide toward disaggregating marriage into a series of social services (especially given the strict interpretation of the "no establishment of religion" clause in the Constitution), and *Goodridge* fell right into that by interpreting the civil union as such a bundle of social services.

So what we get here is that the court in *Goodridge* wasn't actually activist at all in either the statute or *stare decisis* sense. It read directly from the MA constitution using

<sup>3</sup><http://www.whitehouse.gov/news/releases/2006/10/20061030-4.html>

<sup>4</sup><http://supct.law.cornell.edu/supct/html/00-795.ZS.html>

a plain English understanding of the language about equality under the law, and did not seem to disagree with past court rulings. So we conclude what many of you have probably been thinking all along: that the term ‘activist judge’ in this context really is just a polysyllabic way of saying ‘socially liberal’.

Now, there’s a specific reason for conservative rhetoricians to confound all five axes and claim that liberal on one means liberal on the other four, which returns to the asymmetry discussed above: if a judge is liberal on both judicial axes at once, then that judge is just making up law.

This is the crux of the implicit argument in the term ‘activist judge’. If we start with the false premise that a judge who is liberal on one axis is also liberal on all four other axes, then we get the false conclusion that all socially liberal judges are just making up the law, and so the only good judge is a socially conservative judge.

### 3.1 Physical property v intellectual property

8 February 2009

The question for the day is: is it reasonable to class intellectual property along with physical property?

Mr. RMS says no: physical property is based on a sort of natural right, and the legal default is that you get to own stuff; intellectual 'property' is an entirely artificial construct invented to advance society in certain ways. Thus, to lump intellectual property in with physical property is to imply that authors and inventors are natural owners of their products.

[Mr. RMS also says that copyright law, patent law, and trademark law are too different to be lumped into the same class, so the term is misleading in that respect too. No point arguing that one; there are similarities, there are differences, so you decide if they should be categorized together or not. If any librarians are reading this, please edify us on any apropos classification theory.]

The thesis which I'll present here is that yes, physical property and intellectual property are indeed both property; this does not mean that we should be more blasé about intellectual property rights and grant them to anyone who claims them, but that we should remember how much thought and careful design went in to our physical property rights.

#### The menu

Text and designs are obviously different from household objects, but we all knew that. In fact, automobiles are also different from household objects. So is land, and the houses built on that land, which differ from each other. Your kidney is also significantly different. Oh, and commodities such as corn, which differ from corn futures. Correspondingly, the rights associated with all of these things are different.

There are a number of rights typically associated with ownership:

- right of transfer
- right of sale
- right of use

- right of modification or development
- right to exclude others from use [and a number of subclasses within this one]

There is a multitude of things that we call property that lack one or many of these rights, some of which I listed above. E.g., you have the right to transfer but not to sell your kidney. The study of property law is the study of which items from the rights menu should be applied to which elements of the objects menu. Many a bookshelf has been filled with discussion of that simple connect-the-dots exercise.

Some books on that bookshelf (e.g., mine) are about stories or designs or other nontangible concepts. But apart from the fact that the object to which the rights are associated are abstract, the work of analyzing the correct rights to assign to which items and how to operationalize the rights in law is about the same for the ethereal and ephemeral items. On the left, you've got exactly the same menu of rights; on the right you've got a list of abstract concepts, and the task of connecting the dots is the same as above. Of course, we must take into account the fact that text has different properties from a blender, but a competent study of real property (real as in land and houses) also takes into account how land is different from a blender.

If there were a single block of rights granted to all forms of physical property, and then we came along and called a storyline property, then that would be misleading because the storyline would be the odd man out. But because property is merely an item to which *some* bundle of rights may be attached, the storyline doesn't stand out at all: it just has associated different items from the menu of rights that could be granted.

[And what is the correct set of property rights for a storyline? Mr. FK of Alexandria, VA argues that they should be patentable. If software—text on paper or a hard drive—can be patented, then why not a storyline, he argues. Having studied the list of legal justifications for software patents myself, I actually agree with Mr FK. He doesn't mean to, but is making a strong argument against patenting software.]

Is the term intellectual property used to mislead? Yes, by assuming that there is a monolithic single set of rights that all property has, and therefore that exact set of rights should apply to text or designs. In this case, it's not the term *intellectual property* that's misleading, but the term *property*, which implies that monolithic set of rights. One can combat this by comparing abstract objects to less-than-simple real-world objects where not all rights are taken as given, like land or kidneys. Or how about an emergency room? The owner of an emergency room does not have the right to exclude, because society would be the worse for granting that right. By comparing code to a blender, we mislead, but by comparing code to other objects, we can edify how ownership of a block of code does not immediately mean every imaginable right at once. More examples below.

For another example of how the metaphor between intellectual and physical property can be useful, let's ask whether the DMCA is a property right. By the above reasoning: yes, because it provides the owner with some items from the menu of rights associated with property, notably the right to exclude. This has important political implications. The argument that the DMCA is a newly invented property right forces us to apply the usual 'should this right apply to this type of property' analysis we've done a hundred times with other items, but which nobody did with the DMCA because it was never billed as a property right. I'm not of the impression that it would pass that analysis.

### **But physical property rights are natural**

Some people discuss physical property rights as natural or inherent or a default right. This is, as the social scientists say, problematic.

First, there's the problem above: there's a whole bundle of rights which could be granted or not, and is every right included by default? One has the right to leave an automobile sitting on the side of the road—some call it *parking*—and if others so much as touch the car, they can be sued. Can I leave my couch on the side of the road and expect the same property rights? What if I install a couch alarm? Why is it legal to place a car on the side of any country road but not a tent?

So the definition of default rights ain't so obvious, which brings us to the question of whose intuition we should go by. A couple of options.

**truly natural property rights** The only truly natural property law is that the guy with the biggest stick gets everything he wants and everybody else splits the rest. It's no coincidence that the 'real' in real estate is Spanish and Portuguese for 'royal': it used to be natural that the king (the head of the army) owned all land and we all just lived on his land by his generous grace.

**individualistic property rights** Go type "property rights" into your favorite search engine, and the first few links are likely to be pretty amusing. Lots of clip art of flags and eagles. From the first hit as of this writing: "Welcome to the Property Rights Research web site. If God and Country and family are your top priorities, you'll like this site." What do God and country and family have to do with property rights? I mean, the Bible says that women can't even own property, let alone debate the eminent domain clause.

These guys want property law to be written around an individualistic 'if I can grab it and hold it it's mine' philosophy. Some are dismantle-the-government, 'if you step on my land I'll shoot you' types, and some are neoclassical 'if purchased then deserved, by definition' types (and some just haven't bothered thinking much about the axioms underlying property law). Notice how quickly individualistic property rights imply that you don't have to pay taxes or to make sure your restaurant meets the health code. If all property rights are inviolably bundled with all property, then libertarianism immediately results.

**double-entry property rights** My own gut intuition toward objects is that if I'm in proximity to and am using an item more than anybody else, then it's mine. [Many Westerners who visited parts of Africa have told me anecdotes of people who use this concept of property rights.] Under U.S. property law, this blatantly fails. If somebody borrows a book I own and uses it every day for years, I can go to her at any time and take it back, even though her attachment to the book is greater than mine. That is, there's a great ledger in the sky listing who owns what item, and ownership is only transferred via mutually-agreed upon entries in the ledger. [To be more correct, the ledger lists property rights associated with an item, like the right to use or the right to sell, and those rights get transferred around, sometimes all at once in a fee simple sale, and sometimes piecemeal, like a rental contract.] To summarize this option, we define property rights in terms of the market.

**societally-oriented property rights** None of the above approaches to property rights match actual Western property law very well. The best fit comes from a simple question: what is the socially optimal allocation of rights?

Bear in mind that we live in a market-oriented society; we can have the 'is the market the optimal structure' debate later, but must take it as given that the principle of the market is ingrained in the society, and to some extent a healthy market is requisite for a healthy society. That means that the double-entry system gets it half-right, but is vetoed left and right when not appropriate or socially optimal. If your car threatens the health of others, or your tree is getting in the way of the power lines, or you want to make a fast buck but all you have to spare is your kidney, all your market-based rights are out the window.

[ The neoclassicists will try to trip you up into thinking that society is built around natural, objective property rights rather than social construction (some do call themselves 'objectivists', after all). But it's a trick of definitions and not-quite logic. First, define the market as natural. If you purchased something, then you deserve that item and are its natural owner. With that definition there's a lot of overlap between their definition of what is deserved and what is legal. But even if we accept the definitions, (market  $\Rightarrow$  natural/deserved) and (market  $\Rightarrow$  property law) does not imply (natural/deserved  $\Rightarrow$  property law).]

To revisit the original question, the socially optimal allocation of rights is exactly what intellectual property law is intended to do as well. Sure, IP law is artificial, but physical property law is equally artificial; we're just so used to it that we've forgotten.

## Dumb people

Mark Lemley gives a much more nuanced critique of the phrase 'intellectual property' in this paper [which is not to disparage the commentary at the head of this column, but to say that Mr. Lemley is a professor at a law school who's spent much of his life studying IP]. He concedes that the social benefit story generally works: "Demsetz believed that the creation or alteration of property rights could be explained by asking whether the social gains from internalizing an externality exceeded the costs of doing so." (p 10, giving every indication that he agrees with Demsetz) However, he points out that most of the externalities from physical properties are negative externalities to be avoided via stricter property rights, while most externalities from intellectual properties are purely positive. This means that in physical property, 'free riding' is bad—it crowds out or otherwise hurts the owner—but in IP, it takes several steps of logic to convince us that that downloading that song hurt or damaged the owner of the original song. You could make that argument, but you'll need to go through a physical property metaphor to do so: something has to get crowded out.

Lemley's paper doesn't really disagree with much of what I state above, either about property being a complex bundle or property or being a social invention to maximize social gains. But he still suggests throwing out the term 'intellectual property', because of the difference between positive and negative externalities, and therefore the limited applicability of free riding in the IP context. To rephrase, it is correct to set intellectual property as a subset of property, and to do the same social-benefit analysis, but people apply the analysis wrong in major ways.

My first reply is that you can see any situation two ways: if the default is that the public is gaining positive externalities, the private citizen is restricted from taking

action to restrict those benefits; if the default is that the public suffers negative externalities, the private citizen is forced to take action to provide public benefit. One can spin most stories in a destruction-of-value or creation-of-value direction depending on the default (and every party will of course claim that the natural state of things is the one which benefits or does not restrict them). I can't walk around the neighborhood naked because not wearing clothes creates negative externalities, or because covering my pasty hide creates positive externalities?

Second, it is my opinion that crappy method by others does not mean that we should throw out the term or the entire means of analysis. No, we should just do the analysis better. I posit that without the term 'intellectual property', people would still be drawing metaphors to physical goods. As anybody who's ever taken algebraic topology or comparably abstract topics quickly works out, people think in metaphors to things they can see and hold in their hands, whether the language facilitates it or not. Everybody will continue to provide physical examples and analogies; we just need to provide better ones.

So, here are some examples of physical goods which provide positive externalities, for which law therefore does not grant/limits the granting of private property rights:

- Emergency rooms: a physical place and pile of goods where the positive externalities are too great to be restricted.
- The club that leaves its windows open: you can't bill the guys lingering on the sidewalk in front, even though they're enjoying the same music as the guys who paid the cover.
- Most photography of a public space: even though the architects put a year or two of effort into the work of art you just snapped, you're welcome to photograph the facade, frame the picture, and sell it to offices for use in decorating their rows of cubicles. Go ahead, take a picture of your neighbor's laborious flower arrangement. (people constantly try to restrict this one, with limited success)
- Notorious possession: If the area in front of your building is a public space for long enough (like places with a semipark in front or those skyscrapers with a sidewalk inside the frame), then you can not revert it to a private space, because that destroys positive public externalities (notorious possession has loads of caveats which you can look up if so inclined).
- Zoning: residents of many areas need permission to build on their land in a manner incongruous with the surroundings. Since the status quo is a consistent theme to the area (which people evidently like), this is a restriction on private property usage to prevent the private destruction of positive externalities.

Notice all the parentheticals: there is abundant debate in physical property—flowers and buildings and pants—about how to handle externalities, and despite millennia of physical property precedent we still don't have set and finalized rules. But the base is that if you put your goods in a public place, you have a carefully limited right to exclude—which sounds a lot like intellectual property.

Let's not abandon the methods of analyzing property rights just because some people don't apply them correctly. Instead, we can talk about intellectual property as physical property and do it correctly, to show that property rights are not to be granted to anybody who wants them, but should go through the same cost-benefit analysis applied to rights in physical property.

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