

Patent Law - A Balancing Act



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Eventually, the purpose of all laws is to strike a *balance* between conflicting interests, and patent law is no exception to this rule. Lady Justice may carry a bandage and/or a sword, but she always carries a balance. Let us discuss the balance in patent law, and software patent law in particular.

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Proposed Directive

Its own objectives:

- maintain status quo
 - or facilitate software patents?
- provide clarification
 - using ambiguous and controversial wordings?
- warrant unity of law
 - if and when the “clarification” is clarified?
 - solution of a problem invented by the Commission!



Basically the reason why we are here is the ongoing debate on the proposed European directive for “Computer Implemented Inventions”. For a start, let us review the objectives the directive sets for itself.

The directive primarily aims at a codification of the status quo, as developed over time in case law. It is questionable however whether this is really true. There is not really stable case law, so a particular rule was chosen, that essentially goes back to the 1986 VICOM decision of the EPO Boards of Appeal. The idea is *not* to allow *all* software patents, but just patents on “computer implemented inventions” that bring a “technical contribution”. The “explanatory memorandum” attached to the directive proposal however dwells at length on the size and interests of the European software industry in general, giving the impression patent protection will also be provided for plain software inventions.

It is argued that clarity on the boundaries of patentable subject-matter is important, in particular for Small and Medium-sized Enterprises. However, the proposed directive is drafted in magic “patent speak”. It calls for a *technical contribution* but purposely refrains from giving a definition of the word “technical”, allegedly because technology is in constant change. Consequently, the criterion is useless for legal purposes.

Finally, with a European directive, the European Court of Justice will be empowered to warrant the unity of law. However, this seems to be a non-solution to a non-problem. There is a history of over thirty years of confusing case law on software patents. It may take several more years until the courts may finally have sorted out proper rules. The directive text will be little help – it is more likely to block proper solutions. Moreover, the current lack of harmonization is a myth invented by the Commission, in order to obtain the authority to issue a European directive (Art. 95 EC Treaty). In reality, all courts follow the EPO. Which is a problem too, but a different problem.



Alternatives

- Further amend the proposed directive?
 - no-win: the more text, the more clarity will suffer
 - flawed beyond repair?
- Or address fundamental patent problems first?
 - *balance* in law
 - *balance* in policy making and management



What should the European Parliament, the European Council and the European Commission do?

If the directive is not considered OK as it was, logically the first idea would be to improve it by changing its text. Therefore, the European Parliament adopted over sixty amendments in September 2003, and currently even more amendments are considered for the Second Reading.

Regardless of the substantive goals of the Parliament, I believe this approach is bound to fail. Originally the directive aimed to clarify just *two* lines in the statute. Adding ever more words will definitely not improve clarity. Moreover, as was emphasized by some distinguished professors in a hearing in the European Parliament last week (on the 23 May JURI meeting), the basic structure of the directive is flawed. If the purpose is to *restrict* the patentability of software, the restrictions ought to be stated explicitly instead of imposing additional (“positive”) requirements. Experience shows that such requirements sooner or later get interpreted extensively. It seems impossible to “repair” the directive.

So what else could be done? Where do we want to end? I think the essence of what we want to achieve is *balance*. Balance both in the law, and in the way law is created and applied. I will elaborate on both aspects hereafter.



Twofold Balance in Patent Law

	individual	society
justice	“I created it so I own it.”	sharing knowledge does not hurt creator
efficiency	exclusivity needed for R&D cost recovery	.monopolies .transaction cost



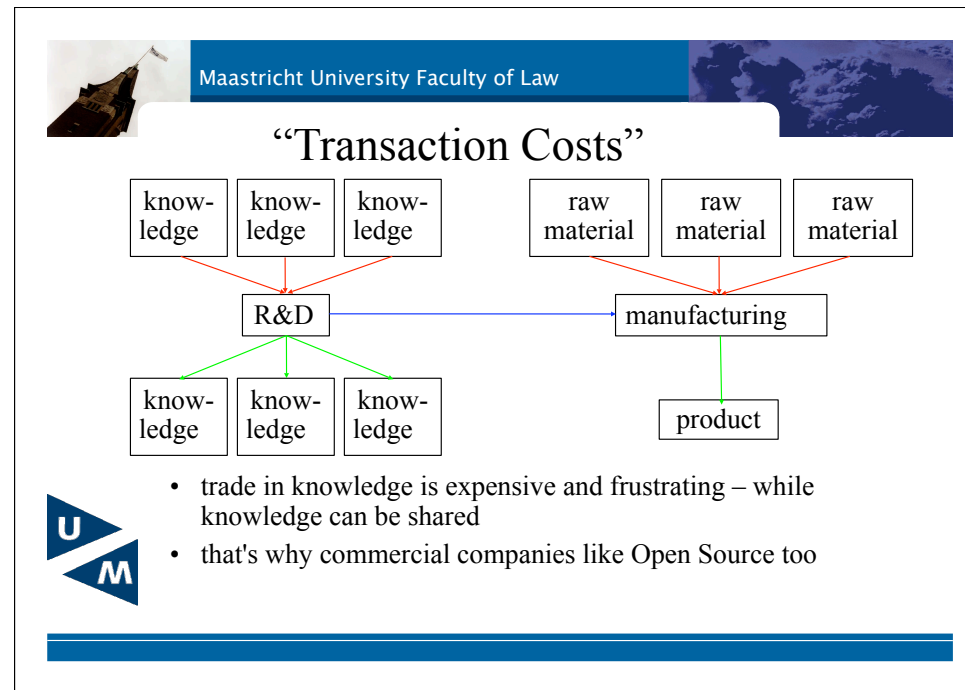
Patent law must achieve a balance of interests on two levels: *justice* and *efficiency*.

If we make something (for ourselves), typically we obtain the ownership (*specificatio* in Roman law). If we cook a pudding, we can eat it, or give it to someone else, but not both (unless we divide it). A right of property is just logical in this case. *The proof of the pudding is in the eating*.

Should we also become the proprietor of the knowledge we create? Contrary to a pudding, knowledge can be shared (without dividing it). We may not even notice it is shared. So it seems a matter of *justice* to allow knowledge to be shared, and not to restrict its use to the one who devised it.

Is it *efficient* to share knowledge? On this level there is a similar trade-off. Drug manufacturers claim they need exclusive rights on their inventions in order to recover the R&D expenses. On the other hand, such an exclusive right will create a monopoly if there is no alternative (“substitute”) on the market.

Another problem are “transaction costs”. Patent law causes a “commodification” of knowledge that creates an artificial scarcity, and allows knowledge to be traded similar to the trade of material goods. The ground rule of economics is that free trade will lead to an efficient distribution of goods. However, Adam Smith’s “invisible hand” of economic mechanisms may fail if the trade itself is expensive. The trade of knowledge based on the legal construct of intellectual property is particularly prone to market failures due to the overhead of “transaction costs” (Coase theorem).

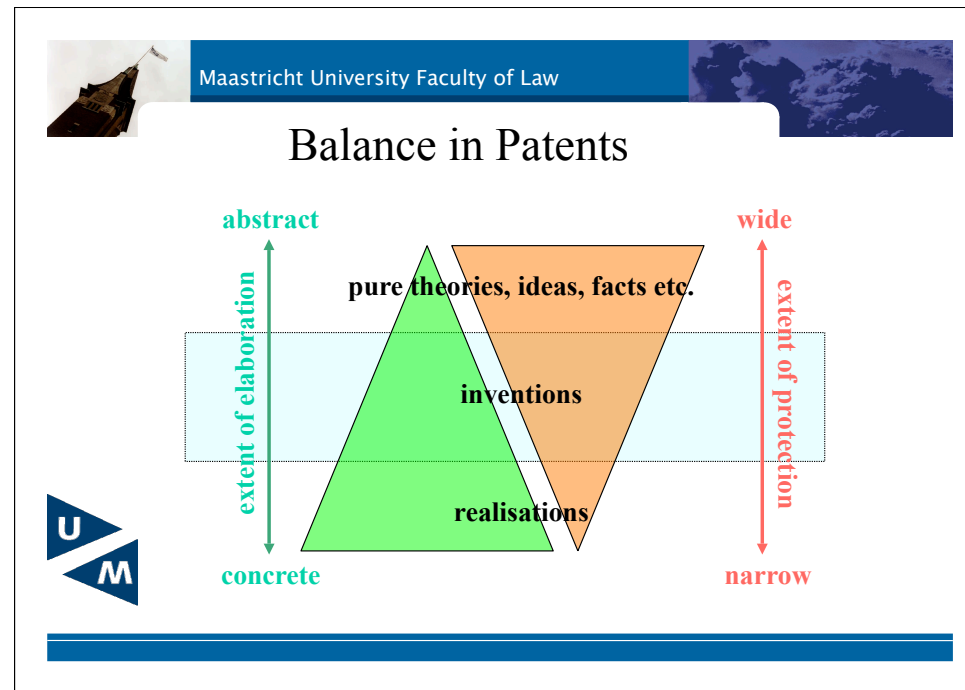


In a typical production process, raw materials are combined into a product that is sold on the market (shown on the right side of the diagram).

At first sight, a research and development department processes knowledge in a similar way (shown on the left). R&D departments use available knowledge to develop products, and, as a by-product, they produce more knowledge. A legal system such as patent law allows this knowledge to be sold similar to regular goods, creating a source of income in addition to the income earned by the sale of products. On the other hand, there may also be a need to purchase patented knowledge. Apparently similar to raw material it may be a matter of specialisation to buy knowledge instead of developing it independently. But there are some problems here. Patent law allows the owner of knowledge to refuse his knowledge to be shared by anyone else. Unlike for the typical raw material, knowledge may be indispensable, so its owner can block competition. Another issue is the *fragmentation* problem that typically occurs in the case of complex technologies such as software. Obtaining licenses from many patent owners is a tedious job. On the other side, selling patented knowledge is much more complicated than selling goods. Theft of material goods is immediately obvious, but knowledge can easily be “stolen” without anybody noticing it. Constant vigilance is required.

In sum, the trade of knowledge is very expensive in terms of *transaction cost*. Would it be possible to avoid this cost, given the fact that the scarcity of knowledge is an *artificial* problem created by law?

The answer is yes. That's why *Open Source* and various other *Open* initiatives thrive. Even commercial companies today understand there is a business case for *not* commercialising knowledge!



Patents provide legal protection only for *inventions*, not for just any kind of knowledge. Why don't patents protect other types of knowledge?

At the top of this diagram some forms of knowledge are shown that do not qualify as *inventions*. Reason: such knowledge is not *ready for exploitation*. Technology is based on laws of nature, but a law of nature by itself is useless. A idea for a computer program may be nice to know, but the real work still needs to be done. If law would grant exclusive rights on mere ideas and theories, such rights would have a far-reaching "scope of protection". On the other hand, inventors focus on *practical applications*, elaborating underlying theories, ideas etc. This is more work. But the extent of protection is naturally limited to the application that has actually been invented. So the scope of protection of an exclusive right on a genuine invention is naturally commensurate.

For an individual, an exclusive right on an *idea* or a *theory* would be more attractive than an exclusive right on an invention: less effort and a wider protection. However, there would be an imbalance with the interests of society as a whole. That is the reason patents are only granted for true inventions. But people will keep trying to get patents on ideas, in particular in the case of software, and patent offices may be "helpful" to grant such patents "because there is a demand for it". Such a policy is against the law. Let us have a look at the statute.

Non-issues in Patent Law

- 52 EPC: exclusion of software as such
- 54 EPC: novelty
- 56 EPC: non-obviousness
- 57 EPC: industrial application
- 83 EPC: enabling disclosure

Read The F* Statute!**

The problem is interpretation!



So patents ought to be granted only for inventions *ready for exploitation by commercial application*. How is this phrased in the statute, the European Patent Convention (EPC)?

Art. 52 EPC excludes software *as such*. The words “as such” have caused tremendous confusion. But the EPC clearly states “software as such” is not just not patentable, *it is not an invention*. So what is an invention? In order to be patentable, an invention must – of course - be *new*. Still, patents are requested and issued for software inventions that are known for a long time (but perhaps not documented). Another logical requirement is non-obviousness. But many software patents are granted for trivial inventions. Some claim this is a quality problem, while others argue this is a deliberate, age-old policy. Patents are only issued for inventions “susceptible of industrial application”. So they must be *ready for application*, which is further underlined by the provision that requires that “the European patent application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art”, again a requirement not well met in the case of many software patents. Patent agents are skilled to disclose as little as possible, and patent offices surprisingly accept that. Inventors often do not recognise their own inventions after the description is rephrased by a patent agent.

Do we need more rules? It seems to be all there! The problem appears to be the *interpretation*. Can rules enforce a particular interpretation? Only to a limited extent. In the 18th century, *Montesquieu* suggested that judges should act as *la bouche de la loi* (mouth of the statute), but today it is acknowledged that interpretation is unavoidable, and indispensable. Beyond a certain optimum, more rules will obscure the principles behind the rules. Law makers should be very explicit to the courts on the fundamental principles to be maintained, but refrain from adding undue details.



Issues in Patent Law

- Patents for trivial *ideas* instead of true *inventions*
 - risk of inadvertent infringement
- “Strategic” patenting
 - groundless threats still expensive
 - arms race: defensive measures = zero sum game
- Don't be confused!
 - patents are economic policy, not a “human right”



Let us summarise some of today's patent problems.

In common parlance, an invention is an outstanding achievement. In patent office practice however, patents are granted for minor improvements as well. If a patented invention would truly be a major achievement, it would be unlikely for anybody else to reinvent the invention. Trivial “inventions” however are likely to be reinvented soon. Still, an “independent rediscovery” constitutes a patent infringement as well. So trivial patents create a legal minefield.

Because patents are so easy to obtain, patents are often not used to protect R&D expenses, but for various “strategic” purposes, such as threatening competitors. If a firm is accused of patent infringement, even if the claim is clearly invalid, it may be more convenient to agree on a settlement than to enter into a costly and time-consuming legal fight. In order to be prepared for such *legalised extortion*, firms build defensive patent portfolios. The net effect is an arms race only beneficial to patent offices, agents and attorneys.

Still, some believe (or claim) patents are a *property*, equating patent infringement to *theft* and any plea to reconsider the benefits of the patent system akin to *communism*. But don't be confused! Obtaining a patents is not a “human right”. Patents are not a self-obvious legal construct. The patent system is primarily an instrument for economic policy, and it has to be judged on its *overall economic effectiveness*.



What to do?

- More rules?
 - clarity not improved by more words
- Study more?
 - No!
- More control by parliaments or courts?
 - OK, but



The patent system ought to be self-balancing

So what should be concluded now? What do we need?

As I have elaborated, adding more rules is counter-productive. This may seem frustrating for law makers, who have little else than words on offer. But beyond a certain optimum number, adding more words merely adds confusion.

Do we need yet another investigation? Many studies have been performed the past years, and some are still going on. Such as a large three year “longitudinal” study commissioned by DG Information Society I am personally involved in. However, it seems to me we know enough to draw some explicit conclusions for an action plan.

If the problem is the interpretation of the statutes by the patent offices, the EPO in particular, would it be helpful to implement tighter controls by courts, and eventually politicians? Traditionally, politicians are not very interested in a highly specialised area of law such as patent law. Which is understandable, but regrettable because patent law, as any other law, departs from the presumption of democratic legitimacy.

But in the end, the patent system ought to be “self-balancing” in its normal operation. Let us look at a comparison.



A comparison

	environmental licence	patent
pro	industrial activity	R&D activity(?)
con	pollution	monopoly
legislation	debate	lobbies
licensing	trade-off	customer friendly
courts	independent	EPO BoA independence questionable



Patents essentially are government-granted licences. As an exception to the ground rule of free flow of information, patents provide an exclusive right on the application of particular knowledge. Such a right is supposed to solve a problem, but it also may create a problem in the form of a monopoly. The justification of the patent system is based on the assumption that there is a net benefit, despite the disadvantages.

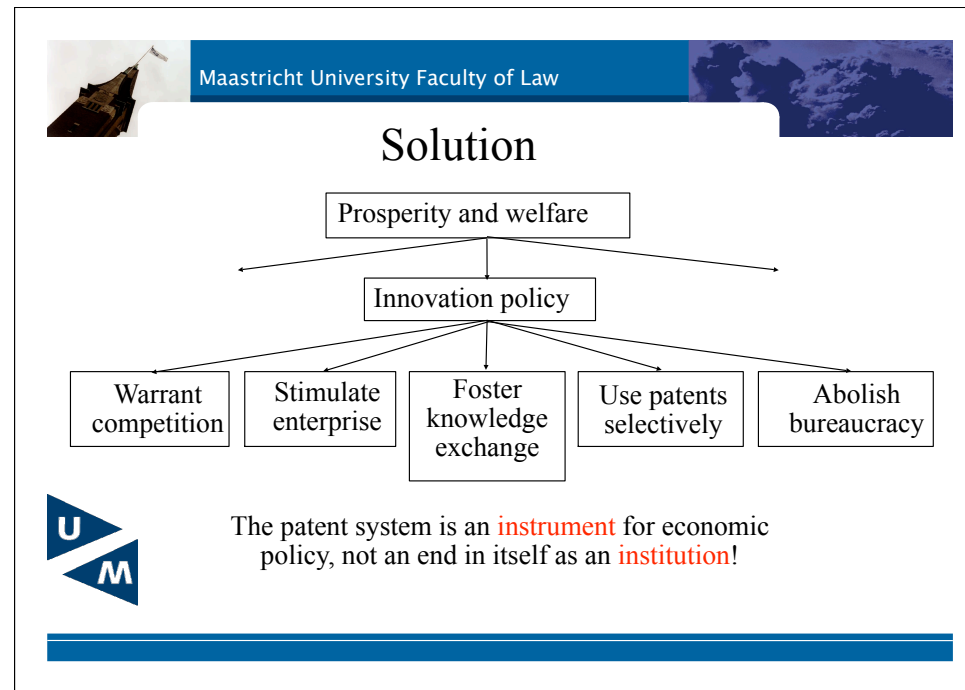
Similarly, there are statutes to protect the environment. Pollution is not allowed. However, for economic reasons, environmental licences are granted to allow certain polluting industrial activities, if deemed necessary. Also in this case, a net benefit is assumed.

Notwithstanding the striking similarity between the principles underlying patents and environment licences, the difference between the two systems is astonishing.

While the general public is definitely interested in the environment, patents were a political non-issue until recently, so lobbyists enjoyed free play. As a novelty, the software patent issue provoked a counter-lobby, which was badly needed – but occasionally embarrasses politicians.

Also the actual licensing process is very different. While environment agencies try to balance all interests carefully, the policy of the EPO is to “sell” as many patents as possible to their “customers”. They promote patents (also today) as if they were a commercial firm instead of a government office that should observe the interests of the general public as well.

Finally, even the adjudication works differently. At the time of grant, the EPO Boards of Appeal are in charge, without appeal to an independent outside court. The BoA always have been very “responsive to the needs for software patents”. Incidentally, this *forced* the German courts to follow in the late 80's, for “competition” reasons.



In the debate on software patents (and in the debate on patents on biotechnology inventions) the European Parliament hit the tip of an iceberg, and it learned that there is much more under the surface which is not normally noticed: the patent system, a world on its own, feeding many, many patent examiners, agents and attorneys. People that speak a funny language, a mixture of legalese and technical language, that is incomprehensible however for both “normal” technicians and “normal” lawyers.

Currently, the patent system is an *institution* which acts as an end in itself. However, originally it was meant to be an *instrument* for economic policy. And it should be brought back where it belongs: in the realm of innovation policy tools. The Lisbon Agenda can only be saved by a comprehensive application of a mixture of policy instruments. There is a role for patents in this mixture. But there are several other policy instruments, some of which are conflicting with patents. E.g., patents may hamper competition, they may restrict the use of knowledge and they definitely lead to more bureaucracy – at a time when there is an increasing awareness that the amount of legal rules is becoming unbearable for SMEs in particular. Again, a *balanced* policy is needed.

The bottom line: a better *balance* is needed, on all levels!