

Patent Protection in Europe: comparison with the US system

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Thomas Bouvet – Avocat à la Cour

VÉRON & ASSOCIÉS

53, avenue Maréchal Foch
F 69006 Lyon
Tel. + 33.4.72.69.39.39
Fax + 33.4. 72.69.39.49
E-mail: info@veron.com

6, square de l'Opéra Louis Jouvet
F 75009 PARIS
Tel. + 33.1.53.05.91.91
Fax + 33.1.53.05.91.98
<http://www.veron.com>

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- Scope of patent protection

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1. The European system of patent law

- National patent rights
- International and regional harmonization
- Regional rights: European Patent Convention
- International rights: Patent Cooperation Treaty

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1.1. National patent rights

- Grant of patent following the national route
- In force in one given country
- Enforcement or revocation before
national courts

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National patent rights: Grant of patent following the national route

Each country has its own patent office and its own independent law.

- A patent application can be filed before a national office in order to obtain a national patent.
- The substantive and formal requirements of patentability are then found in the law of the country where protection is sought.
- Parallel national applications may end up in several different national patents.

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National patent rights: In force in one given country

The rights vested in the owner of a national patent are limited to the territory of the country which granted the patent.

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National patent rights: Enforcement or revocation before national courts

National patents are challenged and enforced before the judge of the country of grant, according to national law.

The decision of one national court does not bind the courts of other countries in cases involving parallel patents.

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1.2. International and regional harmonization

- International harmonization
 - Paris Union Convention
 - Strasbourg Convention
 - WTO-TRIPS agreements
- Regional harmonization

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International harmonization

Paris Union Convention, of March 20, 1883 (1/2)

Two main effects:

- Inventors of member countries are treated equally in all of the member states.
- A minimal standard of protection of intellectual property rights is set forth.

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International harmonization

Paris Union Convention, of March 20, 1883 (2/2)

The priority application:

A person first filing a patent application in a member state has one year to apply for a patent in any other member state for the same invention while keeping the date of first filing as his « priority date ».

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International harmonization

The Strasbourg Convention, of November 27, 1963

- Aimed at harmonizing national substantive laws notably by giving the definition of the « *patentable invention* »
- Patentable inventions are the « ***new inventions involving an inventive step and capable of industrial application*** »

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International harmonization

WTO-TRIPS Convention of April 15, 1994

- Aims at unifying laws of the member states (same rules found in each and every member country)
- Substantive law: for each IP right, the convention defines what may be granted protection (not just patents but also designs, trade marks, etc.)
- Procedural law: the TRIPS also sets forth rules of evidence (e.g. in case of process patent infringement)
- Licensing laws and policies: the TRIPS organizes some aspects of patent licensing (such as the possible assignment of compulsory licenses)

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Regional harmonization

EU Directives

- Within the European Union, Directives are enacted by the European authorities (council or commission and parliament) and bind members of the E.U. by setting **a goal to be achieved**.
- Member states are **free to choose the means** to reach such goal.
- Examples: Directive 98/44 of 1998 tends to harmonizing the national requirements of patentability of biotechnological inventions; Directive of 2004/48 of 2004 on the enforcement of IP rights

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1.3. Regional patent rights: the EPC

The European Patent Convention
signed in Munich, October 5, 1973

By the EPC of 1973, the participating countries (now 30 and not just EU countries), agreed to bring their own laws into conformity with the Convention and to set up a common system for granting patents.

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Regional patent rights: the EPC

- If the inventor wishes to apply for his patent through the EPC route:
 - he makes his application with the European Patent Office (EPO), in Munich,
 - he chooses (“designates”) the European countries in which he wants a patent and pays the fees accordingly.
- The application is treated by the European Patent Office which rejects or grants the patent
- The substantive and formal requirements of patentability are set by the EPC
- An opposition against the grant of a European patent can be filed, by anyone, before the EPO within 9 months of the grant; the EPO Division of opposition and the EPO Board of Appeal decide on the opposition to maintain the patent or revoke it.

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Regional patent rights: the EPC

- Does not create a single title enforceable throughout Europe; once granted, the European patent “divides” itself in as many national patents as designated countries.
- The national designation of a European patent provides the very same rights as a national patent. The EPC contains no provision as to the rights granted by the European patent.
- Each national designation is a national patent, subject to ordinary enforcement and revocation procedure before national Court; the only difference with national patents is that the grounds for revocation are those set in the EPC not in the national laws.

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1.4. International patent rights: The PCT

The Patent Cooperation Treaty signed in Washington on June 19, 1970

- Creates a single application filing administered by the WIPO (World Intellectual Property Organization a UN agency)
- This international application gives rise to a single search and preliminary conclusions on the novelty and obviousness.
- In view of this search and report, the applicant can decide to stop the application procedure or ask that it be passed to the national offices where he wants patents and proceed as ordinary application there.
- This international application usually enables the applicant to delay the payment of fees or translation costs until he has a fair idea of the validity of his patent and commercial interest.

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International patent rights: The PCT

- Does not create a single international patent
- The grant occurs in each designated country and takes the form of a national patent
- Enforcement is that of a national title.

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Will there be a Community Patent?

- The Community patent does not exist yet; it was originally proposed in the European Patent Convention of 1975 and almost happened in March 2004
- It would create a single patent prosecution procedure (it was planned to be granted as a PCT application designating EU as a territory);
- Would create a single patent right for all of the European Union
- Its enforcement would be centralized before a dedicated European Court; a European Patent Court was planned in Luxembourg with an appeal court.
- The issue of translation was eagerly discussed; the compromise found was that the patent would be in one of the 3 basic languages of the EPO (EN, DE, FR) but that the claims would be translated into all EU official languages (21 since enlargement).
- The industry was not very interested in this system which left several problems unanswered: the defendant had to be sued in his language (Hungarian?); What if the claims were mistranslated?

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The European patent litigation protocol

- Only those countries interested in forming a common court for patent litigation between themselves would do so
- This central court would deal with validity and enforcement of the existing European patent

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2. General presentation of the patent protection system

- Rationale for patent protection
- First to file v. first to invent

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2.1. The rationale for patent protection

The rationale for patent protection

- In Europe, the rationale for patent protection has changed with time: considered as a privilege granted by a prince to people establishing new industries (Ancien Régime), it became a natural property right to the inventor (Revolution). Under the modern theory it is an agreement between the State and the inventor who is granted exclusive rights in exchange of the disclosure of its invention. It is a legal instrument to promote the research.

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[The rationale for patent protection]

The rationale for patent protection

- The US Constitution Art. 1 section 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* »

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[2.2. First to file v. first to invent system]

- In Europe and in the US, patent protection is only granted after filing of a patent application.
- Without application, the invention may only be protected by Trade Secret.
- But Europe and US patent laws differ on an important issue: the first to file v. first to invent system

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[First to file system]

- In Europe, the patent is granted to the first person to file a patent application.
If several inventors have made the same invention, the patent is granted to the first inventor to file an application.
An action for transfer of ownership is only possible if the patent application was filed in violation of legal or contractual obligation or if the invention was stolen.

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[First to invent system]

- In the US, the patent is granted to the first inventor
If several inventors have made the same invention, the patent is granted to the first inventor even if he filed an application in second
The interference procedure before the USPTO is here to decide who was the first inventor (conception + reduction to practice)

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3. Subject matter eligible for patent protection

Art. 52-1 EPC « *European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step* ».

The requirement for patentability is thus:

- an invention
- susceptible of industrial application
- novelty
- inventive step

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3.1. An invention

- Negative definition in Europe
- Positive definition in the USA
- Common criteria of “technical solution”
- More flexibility on the US side

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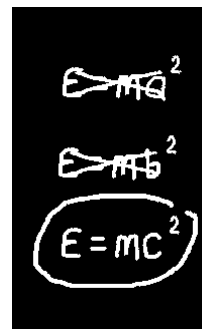
Negative definition in Europe

- Article 52-2 EPC indicates what is not patentable *per se*
- « *The following in particular shall not be regarded as inventions within the meaning of [paragraph 1](#) »:*
 - discoveries, scientific theories and mathematical methods
 - aesthetic creations
 - schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers
 - presentations of information

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Discoveries, scientific theories and mathematical methods

- Fundamental tools and material which cannot be “invented” but only discovered since they existed before man put them into light
- Examples:
 - Rejection of algorithms
 - Rejection of products existing as they are in Nature



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Aesthetic creations

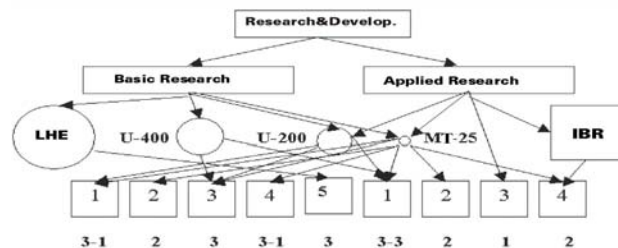
- Main distinction between what relates to techniques and what relates to aesthetic
- A purely aesthetic element is excluded
- An element with a technical and aesthetic combination is patentable subject matter



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Schemes, rules and methods for performing mental acts, playing games

- Abstract elements are not patentable
- Business methods and computer programs are discussed below



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Presentations of information

- Information is not a patentable subject matter
- The way information is presented on a known means is not patentable if it does not show some new technical features

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US Positive definition

- Constitution : Protect useful arts
- 35 USC 101, are patentable:
 - Machines, manufactured products and compositions of matters
 - Processes
 - Improvements

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More flexibility on the US side

The US positive definition of the invention could have been a frame too narrow to cover all inventions whereas the general negative definition in Europe leaves open space for new embodiments.

However, it all tends to happen the other way round because of the strict application of the EPC in Europe and a flexible case law in the United-States (“*Everything made by man under the sun*” is patentable subject matter).

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3.2. Industrial application v. usefulness

- Difference between Europe and US
- Capable of industrial application
- Therapeutic treatments
- Morality considerations

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Difference between Europe and US

- Europe and US patent laws differ regarding this first requirement.
- Europe (and the rest of the world) requires that the invention be susceptible of industrial application when the US, Canada and Australia require that it be useful.
- WTO-TRIPS, Article 27(1) (...) patents shall be available for any inventions, (...), provided that they are new, involve an inventive step and are **capable of industrial application**". "For the purposes of this Article, the term "**capable of industrial application**" may be deemed (...) to be **synonymous** with the term "**useful**".
- This difference has led to considerably diverging results in granting patents on inventions particularly in new technical fields such as biotechnology, information and communication technologies.

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Capable of industrial application

- Art. 57 EPC: «*An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture* ».
- This condition is not difficult to satisfy and it is rarely used as a ground for revocation of a patent.
- It suffices that the product or method be capable of being manufactured or used in the industry to be patentable, even if it has no use.

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Capable of industrial application

- Art. 52-4 EPC: «*Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body shall not be regarded as inventions which are susceptible of industrial application within the meaning of [paragraph 1](#). This provision shall not apply to products, in particular substances or compositions, for use in any of these methods.* »

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Therapeutic treatments

- Only **methods** are not patentable; the substances (i.e. drugs) and medical devices (i.e. prostheses, scales, etc.) are patentable
- Cosmetic or contraception is not therapeutic



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The US utility

- 35 USC 101: "*Whoever invents or discovers any new and **useful** process, machine, (...) may obtain a patent (...)*"
- Invention itself must be advantageous for society; the invention must have actual or potential beneficial effects for those using it or implementing it.
- It must have a practical or specific utility, i.e. that it has a "real world value" and that a specific use for the invention has been disclosed.
- This requirement does not converge with the European "industrial application": an invention may be susceptible of industrial application but not be useful (e.g. an intermediate and chemical compound for the synthesis of an unknown family of products)

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Utility and therapeutic treatments

- As mentioned above, in Europe, a therapeutic treatment does not satisfy the condition of industrial application.
- In the US, a therapeutic treatment is a patentable method; there is no statutory bar
- However 35 USC 287 provides that: "*medical practitioner's performance of a medical activity*" does not infringe such a patent.



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Utility and morality

- Utility is a condition that is used in the USA to control the morality of inventions
- Subjective:
 - Guns are patentable
 - Has been used to control the gambling industry between the two World Wars
- This condition evolves with the morality standards of society



N.B.: the condition of industrial application is not used to control morality issues; the morality of the use made of the invention is dealt with in separate provisions (Article 53a EPC)

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3.3. Novelty

- The European approach: absolute novelty
- The US approach: relative novelty

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3.3.1. The European approach to novelty: basic principles



The invention is new if it is not part of the state of the art, which comprises all matters made available to the public, without any limitation regarding time, space and form



written



oral



use



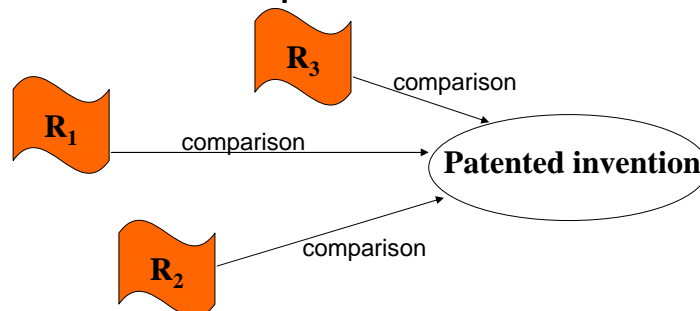
or any other way

Patent filing
or
its priority, if
any

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The European approach to novelty: basic principles

- One reference alone teaching all the elements and limitations recited in the patented invention



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Unpublished patent applications

- Europe: Article 54-3 EPC : unpublished European patent applications are considered as accessible when considering novelty

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The European approach to novelty: the availability requirement

The piece of prior art is available to the public if:

- at least one person,
- not bound to secret either expressly or implicitly,
- could, at least theoretically, have access to the piece of prior art,
- and if it revealed the claimed means sufficiently clearly so that the skilled person could reproduce them

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[The European approach to novelty:
Interesting case law about availability]

- Implicit confidentiality was admitted for employees or subcontractors of the manufacturer of a prototype but not for visitors,
- A liberal decision admitted implicit confidentiality not only for physicians but also for patients taking part in extensive clinical trials (Paris First Instance Court, September 1, 1999, Allen & Hanburys v. 3M Santé)

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[The European approach to novelty:
Interesting case law about availability]

- French case law (Paris First Instance Court, March 14, 2000) is in line with EPO case law about non availability of inherent hidden effects (G2/88, G6/88)
- French courts take into account only what the prior art document describes sufficiently and not embodiments which it implies as being possible but which remain unspecified (Paris Court of Appeal, May 30, 1997, Genentech v. Lilly France)

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The European approach to novelty: requirement regarding the content

- The piece of prior art is novelty destroying if it discloses all the means of the invention, as claimed, and recent case law is very demanding :
 - « *To be anticipated, the invention must be entirely comprised in a single piece of prior art, with the same constituting elements in the same structure, the same arrangement and the same functioning, for the same technical result* » (Cour de Cassation, Commercial Chamber, June 6, 2001)
- Exception : in case of collocation of means, i.e. means which do not cooperate for a common result different from the addition of their own results, each means can be anticipated separately (Lyon Court of Appeal, September 10, 1998)

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The European approach to novelty: proof requirement

- The one who challenges the validity of a patent has the burden to prove the date and the content of prior art with certainty.
- Doubt benefits the patentee.



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3.3.2. The US approach to novelty: relative novelty



- US approach: the relative novelty
- Depending on the type of disclosure, it will affect novelty if it took place anywhere in the world (publications, patents) or only if it took place in the US (prior use, prior invention by third parties even unpublished)

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Content of the prior art

- USA : 35 USC 102 a) to e)
 - Publication
 - Patent
 - Knowledge or use
 - Invention by a third party
- The reference must have a proven date prior to the date of the patent

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Accessibility of the single prior reference

- USA: required accessibility depends on the nature of the prior reference
 - Publication (accessibly if reference is made to it once)
 - Patent (unpublished patent application is considered accessible, but only if the patent is granted in the end)
 - Knowledge or use (only if it took place in the US)
 - Invention by a third party: does not need to be public

- Confidentiality agreements can be signed to protect the novelty of an invention

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US: 1-year grace period

■ 35 USC 102(b)

Experimental use of a device or process within the US does not jeopardize the novelty of the patent if performed no more than 1 year before the filing of a patent application.

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3.4. The Inventive Step

- Rationale of the inventive step requirement
- European inventive step requirement
- Relevant prior art
- Man skilled in the art
- Problem / solution approach
- Secondary criteria
- US non-obviousness approach



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Rationale of the inventive step requirement

- Without the inventive step criterion, any minor change or improvement would amount to a patentable invention
- The “inventive step” requirement was included for the Office to examine the obviousness of an invention
- An obvious invention is deprived of “inventive step” and is not patentable

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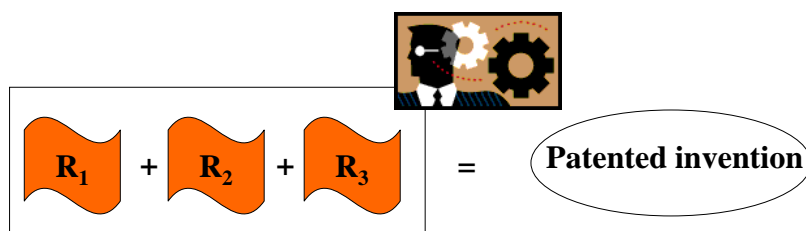
European inventive step requirement

- Article 56-4 EPC: « *An invention shall be considered as involving an inventive step if, **having regard to the state of the art, it is not obvious to a person skilled in the art.*** »
- The question to answer is: was the claimed invention obvious for the man skilled in the art in view of what had already been made available to the public?

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Combination of prior art

- Several references may be combined to decide whether the patented invention was obvious to the skilled man, at the priority date



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Relevant prior art

- Any reference:



written



oral



use



or any other
way

- Unpublished patent applications are not relevant prior art

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Who is the man skilled in the art?



- An ordinary person, who is able to implement but without imagination.
- In the field of the problem solved by the invention.
- In some fields, the man skilled in the art can be a team of scientists.

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Problem / solution approach

- An invention is a solution to a technical problem
- To decide if the invention was obvious to the man skilled in the art, the court must:
 - identify the closest state of the art,
 - identify what was the problem that the man skilled in the art was trying to solve?
 - decide whether, in view of the other pieces of prior art, the solution claimed in the patent was obvious at the priority date?
- The court must be careful not to examine this issue with hindsight
- The question is “**would** the man skilled in the art have made the invention?”, not “**could** he make it?”: this nuance is known as the could / would nuance

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Secondary criteria

- The court can also rely on secondary criteria to decide whether the patent was obvious; these criteria can only confirm the problem/ solution approach but cannot replace it.
- Courts will notably refer to:
 - the **long-felt need** which the invention satisfies: If it was obvious, why was it not done before?
 - the **teaching-away** from the invention by existing practice or opinions
 - commercial success
 - unexpected result

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[The US non-obviousness approach]

- USA: 35 USC 103
“Non-obviousness” requirement
- In practice there is no difference between the EU inventive step requirement and the US non-obviousness

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[The US non-obviousness approach]

Nature of the relevant prior art:

- Publication (anywhere)
- Patent (anywhere)
- Knowledge or use (in the US)
- Invention by a third party (in the US)

Unpublished patent applications are part of prior art

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3.5. Sufficiency of disclosure

- Rationale of sufficiency of disclosure
- Requirement of sufficiency

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Rationale of sufficiency of disclosure

- The patent owner is granted exclusive rights in consideration of the fact that he discloses his invention to the public
- The sufficiency requirement is a guarantee that patent law will promote progress
- Should the disclosure not be sufficient, the patent is invalid

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[Requirement of sufficiency]

- Art. 83 EPC: « *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.* »

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[Sufficiency of disclosure : case law]

- « *Description is sufficient when the information it provides about prior art enable the skilled person, with his basic general knowledge, to reproduce the invention* » (Paris Court of Appeal, September 28, 2001)
- Mistakes should not lead to the revocation of the patent « *if the skilled person can correct them with his basic general knowledge and the prior art quoted in the patent* » (Paris Court of Appeal, September 28, 2001)
- « *The ability to reach more or less perfectly the announced result does not have to be considered* » (Paris Court of Appeal, September 12, 2001)

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Sufficiency of disclosure :
breadth of claims

- Validity of claims defining the means of the invention by their function,
- Especially if there is no other way to define the invention without limiting its teaching,
- Provided that the claim does not cover a result

(see, in particular, Paris Court of Appeal, May 30, 1997, Genentech v. Lilly France, affirmed by the *Cour de Cassation*, Commercial Chamber, December 19, 2000)

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Sufficiency of disclosure :
breadth of claim

- The sufficiency of disclosure requirement does not imply to describe all the embodiments of a claim
- A claim can reasonably generalize one or several examples

(see, in particular, Paris Court of Appeal, May 30, 1997, Genentech v. Lilly France, affirmed by the *Cour de Cassation*, Commercial Chamber, December 19, 2000)

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US approach to sufficiency of disclosure

- 35 USC 112 gives a definition of the description very similar to that of Art. 83 EPC
- This requirement of disclosure is however higher in the US
- The best mode must be disclosed (main difference with EU)

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4. Publication, examination and grant

Publication of the patent application

- The patent application is published after a certain time period (18 months in Europe)
- Until recently, the US patents were published only when granted but the application was not published; the application is now published after 18 months.

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Examination of the application

- The EPO or USPTO examine the application, make comments, suggest amendments
- The EPO or USPTO then grant or reject the patent application
- Post-grant amendments to patent are possible in some European countries (DE, UK, NL: not possible in FR) and is possible in the US (reissue or reexamination)

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Post-grant « complications »

- Opposition by third parties is possible for European patents (9 months after grant)
- Opposition does not exist in US (but an amendment is being considered)
- Revocation actions are always possible by third parties

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5. Scope of patent protection

- Acts of infringement
- Exceptions and limits to patent protection
- Duration
- Assessment of infringement

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5.1. Acts of infringement

- Infringement of product patents:
Art. L. 613-3 a) IPC:
*“The following shall be prohibited, save consent by the owner of the patent:
a) making, offering, putting on the market or using a product which is the subject matter of the patent, or importing or stocking a product for such purposes”*

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Acts of infringement

- Infringement of **process patent**: L. 613-3 b) IPC
“The following shall be prohibited, save consent by the owner of the patent: (...)
b)Using a process which is the subject matter of the patent or, when the third party knows, or it is obvious in the circumstances, that the use of the process is prohibited without the consent of the owner of the patent, offering the process for use on French territory;
c)Offering, putting on the market or using the product obtained directly by a process which is the subject matter of the patent or importing or stocking for such purposes”

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Acts of infringement

- **Contributory infringement**: L 613-4 IPC:
*1. It shall also be prohibited, save consent by the owner of the patent, to supply or offer to supply, **on French territory**, to a person other than a person entitled to work the patented invention, the means of implementing, **on that territory**, the invention with respect to an essential element thereof where the third party knows, or it is obvious from the circumstances, that such means are suited and intended for putting the invention into effect.*
2. Paragraph 1 shall not apply where the means of implementation are staple commercial articles, except where the third party induces the person supplied to commit acts prohibited by Article L613-3.

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5.2. Exceptions and limits to protection

Exceptions to patent protection

- acts performed in private with non commercial goals
- acts performed for experimental purpose
- Prior personal use

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Exceptions and limits to protection

Exhaustion of patent rights

- Multiplicity of national patent rights may hinder free trade of goods
- The exhaustion of rights rule prevents a patentee holding patents in several states of the EU to oppose the circulation of such goods once they have been released on the market, with its consent, within the EU.

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5.3. Duration of patent protection

- 20 years from the application in Europe
- 17 years from the grant in the US
- Supplementary protection certificate exists in matters where marketing authorization are necessary (pharmaceutical or phytosanitary industry)

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5.4. Assessment of infringement

- Claims
- Claims construction
- Literal infringement
- Non literal infringement

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5.4.1. Claims

- Claims can cover:
 - a product: characterized by its structure but possibly also by the process used to make it (*product by process*) or by its function
 - a process i.e. a means that enables to get a product or a result; characterized by its form (material or immaterial), its application and its function (the material effect it produces),
 - an application i.e. the new application of known means, characterized by the means and its new application

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5.4.2. Construction of the claims:

Construction of the claims:

- Art. 69 EPC: « *The extent of the protection conferred by a European patent or a European patent application shall be determined by the terms of the claims. Nevertheless, the description and drawings shall be used to interpret the claims* ».

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Construction of the claims:

- **Protocol on the Interpretation of [Article 69](#) EPC:**

Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties."

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5.4.3. Literal infringement

- **Literal infringement:**

The reproduction of each and every feature of the claim, taken in their structure, function and result

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5.4.3. Non literal infringement

- Non literal infringement:
Reproduction of the essential characteristics of the claim

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Non literal infringement

- Doctrine of equivalents:

Applies when the patent covers a “general means” and when the accused product, despite being different by its form, performs the same function in view of achieving the same result

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Thank you for your attention

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Specific issues

- Computer software and business methods



- Biotechnologies & The Harvard mouse



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[Computer software]

- Copyright protection in most countries
- USA : Patentability *per se*
- The European patent office's position
- Status of the harmonization directive

93

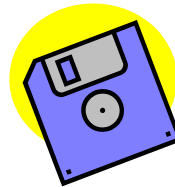
[Copyright protection in most countries]

- A software can be defined as a sequence of instructions to be performed by a computer to process data.
- Europe : statutory exclusion from patentability (Art. 52-3 EPC)
- USA : No statutory exclusion but a court practice which has evolved
- Most countries have favored copyright protection (protection of the form of the sequence of instructions but no protection for its technical functions)

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[USA : Patentability *per se*]

- Supreme Court left the door open in the 80's
 - Purely mathematical algorithms are not patentable subject matter
- CAFC held that software can be covered by:
 - a product patent (*State Street Bank*)
Displaying a number on a screen is a technical and tangible effect
 - a process patent (*AT&T*)
All algorithms are process and processes are patentable



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[EPO's position]

- Despite statutory bar, EPO favors software patents
- IBM case (T1173/93):
*"A computer program is **not** excluded from patentability if the program, when running on a computer, brings about a technical effect which goes beyond the "normal" physical interactions between the program and the computer."*

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Status of the harmonization directive (1/2)

- 1997: Green paper
- 2000: Consultation
- 2002: Harmonization Committee proposal
- 2003: Amendments by Parliament
- March 7, 2005: Council modifies the proposal



97

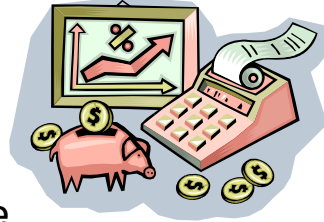
Status of the harmonization directive (1/2)

- Main point is to require a “technical effect” (tangible effect that goes beyond the basic interactions of the software with the computer and is not known or obvious)
- Parliament also wants to allow “decompiling” (accessing source code) for interoperability purposes
- Outcome remains uncertain

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[Business Methods]

- Financial or economic purpose
- USA: patentable *per se*
- Europe: Not patentable subject matter



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[Financial or economic purpose (1/2)]

- Method for dispatching customers in a cinema or a cafeteria
- Method for performing double check of waiters orders and cash-in
- Method for instantly calculating a pension funds' share value

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[Financial or economic purpose (2/2)]

- Invention usually lies in an abstract concept and not the means for implementing the concept
- Nowadays, almost always mixed with software patenting considerations

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[USA: patentable *per se*]

- 1908, case law rejection: a business method lacks the tangible means needed to be a patentable process
- 1998, *State Street*: Displaying a value on a computer screen is a tangible result
- Business methods are now patentable processes in the USA

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[Europe: Not patentable *per se*]

- Statutory bar: Art. 52-3 EPC
- EPO (T0931/95):
 - business methods inventions are method claims for economic or business effects
 - Occurrence of technical means for non-technical purpose does not turn the method into patentable subject matter

103

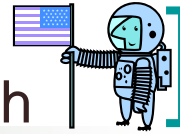
[Biotechnologies & The Harvard mouse]

- Favorable US Approach
- Unfavorable Canadian approach
- Restricted approach in the E.U.



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[Favorable US Approach]



- No federal statutory provision barring patentability of living organisms
- *Diamond v. Chakrabarty*:
“Everything made by man under the sun” is patentable
- Practitioners and courts do not treat living organisms and others products differently but keep a pragmatic, patent oriented approach
- Mouse with mutated gene increasing cancer sensitivity is patentable *per se* (Pat. No. 4,736,866)

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[Unfavorable Canadian approach]



- Canada has a statutory and constitutional background similar to the USA: no explicit bar to patenting
- The Canadian Supreme Court has always kept a conservative approach to patenting living organisms
- Canadian Supreme court 2002:
The Harvard mouse is a living organism which is not eligible subject matter for patenting

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Restricted approach in the E.U. (1/2)

The Harvard Mouse before the EPO



- Art. 53b EPC: bars “race varieties” patenting
- Harvard mouse patent is for a genetically altered “mammal”
- “mammal” is not a “race variety” but is a much broader term, therefore inventions on mammals are not barred from patentability
- The Harvard mouse is patentable under the EPC

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Restricted approach in the E.U. (2/2)

Directive 98/44 on the legal protection of biotechnological inventions

- « *An element isolated from the human body or otherwise produced by means of a technical process, including the sequence or partial sequence of a gene, **may constitute a patentable invention**, even if the structure of that element is identical to that of a natural element. The industrial application of a sequence or a partial sequence of a gene must be disclosed in the patent application.* »
- Should have been implemented by all member states before July 2000 to harmonize patentable subject matter concerning genes and human body
- Not yet implemented in all EU countries

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