Questionnaire May 2003

Q178 – Scope of Patent Protection

Answer of the French Group

1 Which are the technical fields involved?

1.1 Which are, in your view, the fields of technology in particular affected by recent discussions concerning the scope of patent protection?

As mentioned in the introduction of question Q178, the French group considers that the technical fields the most recently at stake as regards the scope of patent protection are on the one hand softwares, including what is generally referred to as “business methods” or commercial methods, and on the other hand the field of biotechnology.

As regards the first field it is agreed that softwares and business methods are generally closely linked and that devices and processes using data processing and new communication networks raise in Europe some patentability issues.

The problem is the same within the field of biotechnology, where the inventions are often linked to Health, Food and Environment.

1.2 What makes these fields special compared to other fields of technology in the context of this discussion?

1.2.1 Computer programs and business methods

For a long time it has been considered, namely under European laws, that inventions based on the use of softwares had a particular feature, for instance due to the lack of the required technical feature. However, the European Patent Office (EPO) has never refused to grant patent to a computer related invention on the ground that the latter was not capable of industrial application (Article 52(1)). Moreover, there has almost never been a refusal on the ground that the invention was a computer as such (Article 52(2 and 3)).To the contrary, it has been agreed that a computer program, created by a technician, was capable of industrial application. The actual issue, however remaining, was that it had to be an invention, i.e. the novelty and inventive step being to be met.

If, until 2000, the EPO has refused to grant patents in this field, it was because the inventions involved were schemes, rules or methods for performing a mental act, which could have been mimicked by the human mind with the help of a pen and paper.

To the contrary, the EPO has adopted new solutions in its recent case law (Pension Benefits and Comvik cases). Both cases dealt with computer-implemented business methods. The

EPO rejected the claims not as being excluded from patentability but due to the lack of the required inventive step (Article 56) – asserting that the inventive step criteria could only be based on the "technical feature" of the invention. It was, thus, a wish to exclude the "business methods inventions" because of political reasons. The normal application of the past case law of the EPO was not sufficient to use the existing provisions for exclusion. This is why it has been relied on Article 56.

For the French Group, a computer program is a technical product which does not inherently differ from other products. In this respect, the presence of interchangeability between software and hardware, such as a program consisting of a logical process or an ASIC (Application Specific Integrated Circuit), must be underlined. The information technology specialists think that any distinction between an hardware and a software is artificial, the choice of one or the other solution simply being an issue of implementation based on compromise solutions such as speed, costs and capacity of modification.

It is agreed that a computer program is a product aimed at being marketed. A computer-implemented accounts method is a product which can make a society live, but whose creation may require important works of research and development. It appears that if such business methods were excluded from patentability, it was because in the past they could have only been developed under the forms of theorical reaching and not under the form of a marketed product such as a computer program. This also applies, mutatis mutandis, to many financial, insurance, banking methods, etc..

1.2.2 Biotechnology

From the last recent years, genetic researches have increasingly and rapidly been developed bringing out different interests and namely as follows:

- scientific, in order to defend the freedom of access to knowledge,
- economical, in order to protect the financial research investments,
- judicial, in order to define the appropriate protection,
- ethical, in order to protect the human body for it not to be marketed.

The legal debate, which was the one to be taken into account, in order to answer Q 178, related to the question to know whether a new system only dedicated to Biotechnology was to be created or whether the existing arsenal was sufficient.

It has been found that among the existing systems, patent law might be the answer to the sought protection.

However, far from putting an end to the debate, it has been necessary to define what was patentable, i.e. be able of being subject of a monopoly and what should be excluded from patentability because living bodies such as humans, animals or plant varieties are here at stake, or because the inventions might be contrary to public policy or morality.

Thus, it appeared that, from one country to the other because of cultural, moral, political differences, the limits between what is patentable and what is not patentable as well as the assessment of such requirements were not the same.

An harmonisation was therefore necessary that is why the EC Directive 98/44 of the European Parliament and the European Council dated 6 July 1998 was adopted.

However, the patentability issues, dealing with the distinction between the discovery and the invention as well as the question to know whether the marketability of the human body, which raises important ethical problems, is admissible, explain why France has not yet implemented the said Directive.

As a result, at the present time, differences between French law and Community law still remain. However, this has not led to particular case-law, because French courts have not yet had the opportunity to rule, contrary to the EPO.

1.3 The reading of the Questionnaire regarding Q178 and the explanations attached hereto led the French Group to be of opinion that it was more appropriate to answer the following question in a distinct manner in respect of each of the involved fields.

Indeed, there is no meeting point between these two fields relating to the answers to be given (except the legal definition of what is patentable (see.2.1)), this may result from the fact that softwares and business methods are subject to debate regarding their technical feature, where Biotechnology raises ethical issues.

COMPUTER PROGRAMS AND BUSINESS METHODS

2 Definition of patentable subject-matter

2.1 ***What is the definition of patentable subject-matter in your jurisdiction? Do different definitions apply in various fields of technology? If so, what are the differences?***

In France two articles apply as follows:

- On the one hand, since 1 January 1995, Article 27 of the Marrakech Agreement (TRIPS) :

  "1.*Subject to the provisions of paragraphs 2 and 3, patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application (For the purposes of this Article, the terms "inventive step" and "capable of industrial application" may be deemed by a Member to be synonymous with the terms "non obvious" and " useful" respectively)."*

- On the other hand, French law (Article L. 611-10 of the IPC), implementing the EPC, which says under Article 52:

  "(1) European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step."

2.2 What are the exemptions/exceptions from patentability?

2.2.1 Article 27 of the TRIPS Agreement does not seem to exclude from patentability a computer program which is useful, new and inventive; even if the word "useful" is replaced by "capable of industrial application" (for instance, an accounts computer program may be used in industry).

2.2.2 Article 52 of the EPC provides:

(2) "The following in particular shall not be regarded as inventions within the meaning of paragraph 1:

(a) discoveries, scientific theories and mathematical methods;

(b) aesthetic creations;

(c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;

(d) presentations of information.

(3) The provisions of paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such."

As mentioned in 1.2.1, this text has almost never been used by the EPO to reject the claims of a computer program or a business method invention. The EPO has developed a case law based on the ground of Rule 29 and Article 56, submitting that the inventive step criteria might only be based on a technical feature. Therefore, some inventions have been refused patentability in lack of technical feature or because they did not bring a "technical contribution" to the state of the art.

2.3 What is the reasoning behind those exemptions/exceptions?

The list of exclusions include very different processes, which in the past could have been performed by mental acts and which did not lead to marketable products. The idea still remains in Europe that a business method as such is not patentable, nor a rule in the absence of any marketable product. For instance, the way of hanging a golf club should not be patented. However, even in the case of a non patentable rule (as a mathematical operation), a computer program implementing it effectively or applying it in a particular field should be patentable, as long as it is new and inventive. The same reasoning applies to the mechanical engineering field: a physics rule is not patentable, but a mechanism implementing it in practice and in a new and inventive way should be patentable.

3 What is the effect of this definition on activities concerning patent protection?

3.1 Is the scope of protection sufficient or does it lack opportunities for further protection? This includes economic aspects for the users as well as for the public in general regarding various technologies.

The position of the EPO above-mentioned is a serious limitation towards the patentability of computer related inventions. Moreover, the relevant case-law is relatively complex and leads to a high level of legal uncertainty.

As exactly reminded in the introduction by the General Reporter, the question raised goes widely beyond the analysis of the legal texts forbidding or allowing the patentability of computer programs and business methods. The issue at stake is that, in our modern society but also in huge industrial societies, services tend to be a major part of our economy.

The aim of a patent has always been to protect researches conducted in the major economical fields. In the past, patent was considered as to be a contract between the inventor and the public, a temporary monopoly in consideration of a disclosure being granted to the inventor. Nowadays, this approach is no longer justified, namely in the fields of electronics and information technology. Thus, as soon as a product is on the market, it becomes easy to analyse it and to copy it. Within the fields at issue, the patent is a way for companies to invest in research and to obtain the results of their investments. Taking into consideration that a major part of our economy's benefits is made by companies involved in research in the information technology, economical and organisational fields, should it not be regarded as to be a good idea to grant to the relevant inventors the advantages given in 1900 to the inventors of industrial products?

3.2 If the scope of protection is not sufficient, how does this affect the users' policy on patenting? Does this also have an impact on research policy?

In the countries where incentive for computer programs patents is not provided, this situation is not advantageous for companies having their registered office in these countries. The inventors of computer programs of these companies tend to apply their local legislation to their strategy of international protection. Moreover, they do not look for getting patents for inventions that are not patentable in Europe but that might be patented elsewhere, especially in the USA and in Japan. However, the competitors, coming from countries where the protection of computer programs by patent is accepted, tend to extend their national experience to their international activities. Thus, they often obtain patents in Europe for inventions which seem not to be patentable to Europeans.

Generally, American companies have larger portfolio of computer programs patents than European companies. Thus, American companies can more easily control some specific aspects of their processes that use computer programs and technologies relating to them. In this respect, the European Commission says that 75% of the European computer programs patents belong to Americans and Japanese.

This situation has disastrous consequences for small and medium companies for which patents are the only actual protection for their inventive programs (function, concept or idea). In addition, protection by copyright appears not to be sufficiently protective as there is right of adaptation which could permit third parties to transform and adapt these inventive products.

3.3 What are obstacles from political or social sources outside the purely legal field which play a role in research and patenting?

The most important critics come from the movement of the Free Softwares, and in particular from the Euro-Linux Union which heavily lobbied the European Parliament and Council for contesting the patentability of computer related inventions.

It is strange to note that the United States is the country where Linux softwares are the most present, a country where patent protection is important. It is moreover established that the Linux systems are implemented in 30% of the American computers. The argument rejecting these inventions from patentability seems therefore coming from a misunderstanding of the system.

3.4 How should new kind or categories of inventions be treated? Should there be an enlargement of patent protection? If so, what are the reasons?

The French Group maintains its position as regards its approval of past resolutions of the AIPPI, in particular the French Group still finds justified the resolutions of Question 133 (computer program patentability) and Question 158 (business methods patentability). The French Group is of opinion that inventions in the field of information technology and computer programs are susceptible of industrial application, and must be patentable provided that they be new and non obvious; this without the need to take into account other considerations.

3.5 If you find the range of patentable subject matter too wide, how should it be limited? What would be the reasons for such a limitation? What do you see as the positive effects of such a limitation?

The French Group is of opinion that the patent system has been found to be an effective one in order to encourage innovation, and to give to the inventor an equitable reward. The arguments developed by the opponents to the extension of the patent protection are the same as those who were against the introduction of a patent system in Europe in the second half of the XIXth Century. However, experience has shown all the benefits of such a system.

However, the French Group remains reluctant to accept that abstract methods as such (the way of hanging a golf club) may be patentable.

4 Further points of discussion

4.1 Which upcoming problems do you see specifically as a result of a change of the scope of patent protection regarding the requirements for patentability, in particular novelty and inventive step?

The extension of the patent protection to any process and computer-implemented business methods does not raise any particular problems regarding the patentability requirements, i.e. the novelty and the inventive step. They are applied to softwares and business methods related inventions in the same way as to other more classical inventions.

4.2 What are specific problems of the granting proceedings (search, examination) if the scope of patent protection is enlarged?

In the field of patent for computer programs, the main issue is that many coarse patents have been granted to obvious or not new inventions. This is, however, simply a transitory hurdle which can be resolved in Europe through opposition proceedings. Furthermore, it should be noted that the EPO has made important efforts, in order to improve the capabilities of its examiner's teams in this specific field.

However a danger remains due to the fact that the EPO generally seems to apply less restrictive criteria as regards the inventive step requirement. If these extensive criteria are applied to the field of computer programs, we will then face with the same problems as in the other fields.

4.3 What do you see as possible solutions for these problems? Would further harmonization of the laws help to solve such problems and, if so, in which way?

When a new technical field comes up, it is important that experts specialised in this specific area examine the relevant patent applications. In the beginning, few authorities are available in that specific field. Therefore, it is crucial that the examiners have a good knowledge of the relevant technical field but be also provided with good databases to support their task. It is also very important that the examiners require a high level of inventiveness, in order to maintain a fair balance between the reward of the inventor and the protection of the public, in order to avoid to grant unjustified monopolies. An international harmonisation is not to be excluded but it will not lead to avoid the specific criteria applied to assess the inventive step and novelty requirements. Indeed, such criteria depend on the concerned Patent Office and the different national and local cultures.

BIOTECHNOLOGY

2 Definition of patentable subject-matter

2.1 What is the definition of patentable subject matter in your jurisdiction? Do different definitions apply in various fields of technology? If so, what are the differences?

In this field the texts to apply are the same than those above-mentioned in relation to computer programs and business methods (cf. 2.1).

2.2 What are the exemptions/exceptions from patentability?

Apart from the two texts mentioned in this same chapter in relation to computer programs and business methods, apply in France:

- Article L. 611-16 of the IPC:

“ Shall not be regarded as susceptible of industrial application … 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. This provision shall not apply to products in particular substances or compositions for use in any of these methods".

- Article L. 611-17 of the IPC:

  ” The following shall not be patentable:

  a) inventions the publication or exploitation of which would be contrary to public policy or morality, provided that the exploitation shall not be deemed to be so contrary merely because it is prohibited by law or regulation,

  b) new plant varieties belonging to a genus or species enjoying the protection instituted by the provision (…) relating to new plant varieties,

  c) animal varieties or essentially biological processes for the production of plants or animals; this provision shall not apply to microbiological processes or the products thereof.

It must be noted that the law of 29 July 1999 added a new provision to the paragraph a) of Article L. 611-17 as follows:

“In this respect, the human body, its elements and products as well as the knowledge of the whole or part of the human gene cannot as such be subject to patents.”

As a principle, this last provision should help to resolve the question of the differences between discoveries and other inventions relating to elements or products of human origin which are patentable.

However, this text can be construed in two different manners, as a result of which:

- in one case, it can be understood that the sequence of a DNA is not patentable ,
- in the other case, it can be understood that the sequence of DNA as being an element of the human body, is not patentable. However, at the present time, this discussion has not led to French Courts judgments because they have not yet been faced with this issue.

2.3 What is the reasoning behind those exemptions/exceptions?

The main reason explaining these exclusions from patentability is, apart from the principle of human dignity, the principle forbidding the human body to be the subject of business transaction.

However, the respect of this principle does not lead to exclude from patentability the sole fact of "being human". In fact, the issue at stake is the patentability of the discoveries of elements or products of the human body "as such": because as they do constitute discoveries, and not inventions, related to the whole human body or one of its part, there is no room for

patent.Thus, the discovery of a sequence of a DNA is not patentable; but this same sequence could be patented as long as its functions will be specified or defined.

3 What is the effect of this definition on activities concerning patent protection?

3.1 Is the scope of protection sufficient or does it lack opportunities for further protection? This includes economic aspects for the users as well as for the public in general regarding various technologies.

This question underlines the specific situation of France which is governed by its national law, but which should also be by the Community provisions.

Thus and it has already been said (1.2.2), the EC Directive 98/44 of 6 July 1998, which should have been implemented into French law, has not yet been implemented.

The delay in the implementation is in part due to Article 5 of the Directive, which provides: "*an element isolated from the human body…including the partial sequence of a gene, may constitute a patentable invention"*, provided that the industrial application of a sequence of a gene be clearly disclosed in the patent application which is contrary to the end of the provision of Article 611-17 a) of the IPC (see 2.2).

The situation has become more complicated following the vote, at the National Assembly in first reading, of the draft bill, amending the law of 29 July 1994. This draft bill provided that isolated elements from the human body were excluded from patentability. This was contrary to Article 5 of the above-mentioned EC Directive 98/44. These provisions have therefore been entirely modified by a vote at the Senate. As a result, the new text is pending before the National Assembly.

This legislative complexity is limited by the fact that there is no specific case-law on that issue for the moment in France, apart from the EPO decisions. Therefore, there is no judgment revoking a European patent designating France, which would have been in contradiction with national law on that point. The same applies for the INPI (French Patent Office) which has never rejected *ab initio* a French patent on that ground.

3.2 If the scope of protection is not sufficient, how does this affect the users' policy on patenting? Does this also have an impact on research policy?

It is true that the patent issue is of major importance as biotechnology companies are only valuable thanks to the patents, they maybe granted, to protect their investments.

It appears that the policy and strategy of these companies are not restrained by this French legislative complexity, because the European Patent Office case-law allows them to be protected without being in conflict in absence of national case-law.

The French legislative situation is neither a limit for research as such, because companies can protect their works through the application and grant of European patents.

It must be mentioned that the decisions of the Opposition Division of the EPO do not seem to be far from the relevant French legislation.

- Decision V 28 (20 June 2001): Revocation of a patent for lack of inventive activity, lack of description and lack of industrial application (a presaid function being not valid).
- Decision Relaxin (8 December 1994): An invention relating to a human gene is not contrary to public order nor morality and is thus patentable.
- Decision Edimbourg University (21 July 2003): Limitation of the patent, with the exclusion of human embryo stem cells.

However uncertainty remains due to the fact that industrial manufacturers ignore what will be the position adopted by French courts when they will have to rule on the validity of a national or European patent.

3.3 What are obstacles from political or social sources outside the purely legal field which play a role in research and patenting?

The major hurdle met within the field of biotechnology is of ethical and moral interests.

In this respect, the National Ethical Advisory Committee filed on 13 June 2000 an opinion related to the implementation of the EC Directive 98/44 concluding that "*the knowledge of the sequence of a gene can not in any case be compared to a patented product and therefore is not patentable".*

3.4 How should new kinds or categories of inventions be treated? Should there be an enlargement of patent protection? If so, what are the reasons?

At this stage of the reasoning, the French Group does not consider necessary to create some new categories of inventions.

Thus, the French Group relies on the works done by the Executive Committee of the AIPPI of 1985 at Rio de Janeiro which concluded:

"Biotechnological inventions should be protected by the application of the existing principles of patent law, the creation of a unique (specific, appropriate) law is not necessary. As a consequence, the relevant subject within the biotechnology field should be patented as long as it meets the usual requirements of patentability".

3.5 If you find the range of patentable subject matter too wide, how should it be limited? What would be the reasons for such a limitation? What do you see as the positive effects of such a limitation?

The protection provided by patent law is adapted to the field of biotechnology and need not be put into question in its principle for a reason or another. The major difficulty lies in the definition, that is to say the delimitation, of what cannot be subject of property and therefore patentable. This lies in the definition of what is the common wealth of our humanity.

4 Further points of discussion

4.1 Which upcoming problems do you see specifically as a result of a change of the scope of patent protection regarding the requirements for patentability, in particular novelty and inventive step?

A possible change in the patent scope of protection should not raise so many difficulties within the field of biotechnology.

Indeed, this should not change in any way the novelty and/or the inventive step criteria.

However, the validity condition related to the industrial capability of the invention could lead to important debate.

4.2 What are specific problems of the granting proceedings (search, examination) if the scope of patent protection is enlarged?

It is obvious that the broadening of the patent scope of protection applied to the field of biotechnology would have as effect to require that the examiners should have some specific competences and the deepest as it can be possible.

Besides, patent application might certainly become more and more complicated in the near future; contributing to an extension of prosecution duration.

4.3 What do you see as possible solutions for these problems? Would further harmonization of the laws help to solve such problems and, if so, in which way?

An harmonisation of the different national laws is strongly required as a factor of legal certainty.

However an harmonisation of these legislations does not necessary mean the adoption of the same case-law.