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► **To cite this version:**

Matthieu Dhenne. The AIPPI and Computer-Implemented Inventions. European Intellectual Property Review, 2019. halshs-02970426

HAL Id: halshs-02970426

<https://shs.hal.science/halshs-02970426>

Submitted on 7 Nov 2020

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The AIPPI and Computer-Implemented Inventions

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☞ Conferences; Excluded subject matter; International law; Patentable inventions; Software

This article aims to trace, briefly, the history of the protection of computer-implemented inventions around the world, through the resolutions adopted by AIPPI since the mid-1970s.

According to the European Patent Office (EPO):

“The expression ‘computer-implemented inventions’ covers claims which involve computers, computer networks or other programmable devices in which at least one characteristic is achieved thanks to a program.”

In other words, computer-implemented inventions (CII) are all the inventions involving a step performed by a computer program.

No fewer than four AIPPI resolutions concern this category: question 57, Protection of computer programs; question 133, Patentability of computer software; question 132, software, electronic highways, artificial intelligence and integrated circuits; question 158, Patentability of business methods, and finally, the question relating to the Patentability of computer-implemented inventions addressed at the Sydney Congress in 2017.¹ Originally, the AIPPI was focused on some parts of the CII (software, business methods) to determine their patentability. Since the Sydney Congress, in 2017, the Organization appears to be more oriented toward the search for a new condition of patentability which would allow for consideration as to which CII are patentable.

Before 2017—the focus on exclusions from patentability

Before the Sydney Congress, in 2017, the AIPPI was focused on exclusions from patentability (programs, business methods), to determine whether a computer-implemented invention should be patentable. First, the Organization declared that a computer program was not patentable per se, but that this exclusion did not

impact on the patentability of an invention involving such a program. Then, several resolutions recognised that the invention consisting of software was patentable.

The patentability of inventions involving software

The AIPPI rules on the protection of computer programs by intellectual property as of the San Francisco Congress in 1975. It is worth remembering the context of this resolution. The first real computers were born at the end of the 1940s, when the first computers equipped with programs appeared. However, it was only toward the middle of the 1960s that the question of the protection of programs was raised. The computer was born in the US and so the problem of intellectual property relating to this sector was quite naturally born in the US. Thus, while the Copyright Office admitted protection by *copyright* as early as 1964, at almost the same time, in 1966, a Presidential Commission dedicated to the apprehension of new technologies by Patent Law rendered an unfavourable opinion on the patentability of software. Subsequently, it was the decision by IBM to sell software and machines separately, in 1969, after the antitrust case directed against IBM by the American state, that allowed the birth of an autonomous market devoted only to software.² In Europe, the French Act of 2 January 1968, excluded, in its art.7(2), the patentability of “programs or sets of instructions for the conduct of the operations of a machine calculator”. The Munich Convention, signed on 5 October 1973 and which entered into force on 7 October 1977, also provided for an exclusion of the patentability of computer programs per se.

In 1975, the protection of software by copyright was therefore in its infancy, while their exclusion of patent law remained poorly delimited. The question that arose was whether it extended to a machine running through a program. In France, the report of the meeting of the Supreme Council of Industrial Property (Conseil Supérieur de la Propriété Industrielle) on 15 September 1967, evoked a distinction between the machine calculator (non-patentable), where the software plays a central role, and the machine operator (patentable), where the software plays only an accessory role. A similar distinction was retained by parliamentarians³ in discussions relating to the act of 2 January 1968⁴, and then by Mathély⁵:

“A machine calculator is one which provides only information; it is distinguished from the operator, which transmits the orders of operation to other machines. Therefore, under the rule of the strict interpretation of the exception, it should be considered that the programs for machines operators are not covered by the Act.”

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¹ All AIPPI documents cited hereafter are available on <http://www.aippi.org> [Accessed 26 July 2019].

² The President’s Commission on the Patent System, *Report to Promote the Progress of Useful Arts* (1966).

³ J.M. Mousseron, “La protection des programmes d’ordinateur” in *La protection des résultats de la recherche face à l’évolution des sciences et techniques*, Colloque (Actes du colloque organisé par le CEIPI à Strasbourg les 12, 13 et 14 octobre 1967) (Paris: Litec, CEIPI, 1969), Vol.3, p.118.

⁴ P. Marcilhacy, *Rapport de la commission des lois*, JOAN, 1st Session 196768, Doc. No.42, p.17.

⁵ P. Mathély, “Note under Paris, 22 May 1973” [1973] Ann. propr. ind. 275.

The recognition of this distinction defined by Mathély remained uncertain. The French case *Mobil Oil* is a good illustration. A application had been filed for a device for obtaining, through a collection of colored pigments, a composition of paint identical to that used for a pre-determined object. It was necessary to choose the pigments, determine their concentration and achieve a mixture to get the desired result. These operations were carried out by a computer. This application was rejected by the French Patent Office on the grounds that it was aimed at a computer program. The rejection was upheld on appeal. The Court considered that in 1968 the legislator wanted to exclude the patentability of all computer programs. Thus, this decision seemed to refuse the patentability of all inventions that include a software program.⁶

Concomitantly, in 1972, in *Gottschalk v Benson*, the US Supreme Court ruled that an algorithm as such was an abstract idea. The application in question was for a converter of decimal numbers to binary numbers. It was rejected because the essential element of the invention resided in an algorithm: in other words, in a mathematical formula, which constituted an abstract idea. However, the protection of an overly broad mathematical formula implemented on a regular computer was excluded.⁷ Were applications for software receivable after *Benson*? Professor Pamela Samuelson maintained that this decision sounded the death knell for patents relating to software.⁸ In fact, patents relating to software relate to their functions, which also constitute algorithms implemented by computers. Because of this closeness, American judges, since the *Benson* and *Flook* decisions, have employed the terms “algorithms” and “computer programs” as synonyms.

In resolution Q57 adopted in May 1975, the AIPPI stated that the rules of unfair competition and contract were insufficient to foster creation in the software sector. Moreover, interested parties expressed the need for legal security. Therefore, the Organisation believed that the intervention of intellectual property for the protection of software constituted a necessity. The Resolution stated first that

“inventions that meet the criteria of patentability according to the national laws should not be denied protection by patent or by Certificate of inventor for the sole reason that they contain software and in particular a computer program”.

It was then stated that copyright constituted the most appropriate protection regime. Strangely, at the same time the AIPPI evoked “a mode of *sui generis* protection” regarding the proposal of a draft treaty establishing a system for the international deposit of computer programs. Just as strange, and even contradictory, was the statement

according to which the study of the question must continue in particular concerning research into “the mode of protection most appropriate”.

This resolution establishes two principles: the limitation of exclusion in patent law to the computer program as such, on the one hand, and the protection of its form by copyright, on the other. In so doing, the resolution establishes the fundamental boundary separating the respective fields of patent and copyright law: first, computer-implemented inventions and thus their functions, and, secondly, computer programs and thus their forms. Since Q57, the limitation of the exclusion to the programs as such and the recognition, at the same time, of the protection of computer-implemented inventions have been widely recognised by national rights, especially after the entry into force of the Munich Convention on 7 October 1977. In France, for example, no later than 28 May 1975, barely more than 15 days after the adoption of the resolution, the French Supreme Court confirmed the decision in *Mobil Oil* while performing a substitution of reasons to avoid the pitfall of an interpretation under which any invention where software intervenes would not be patentable. In the US, in 1977, the Supreme Court confirmed the interpretation of the *Benson* case law, according to which the exclusion of the patentability of an algorithm did not question the patentability of any device implementing an algorithm.⁹ Thereafter, technological developments and the needs of users of patent systems have led to the de facto patentability of inventions consisting of software.

The patentability of inventions consisting of software

We cannot ignore that, historically, the early 1980s saw the birth of both the Court of Appeal of the Federal Circuit (CAFC) on the other side of the Atlantic and the case law of the EPO in Europe. We will see that this historical coincidence is of major importance for patent law in general, as well as for computer-implemented inventions in particular, because of the emergence of two fundamental jurisprudential lines that favour an extension of the field of the law of patent. Moreover, during this period, IT radically changed. The software gradually dematerialised by leaving behind the punch cards and even the diskettes in which they were integrated; they then gained parallel independence by forming a significant market. Given this context, it is not surprising that the period separating resolution Q57 and resolution Q133, which extended from 1975 to 1997, was marked by a jurisprudential evolution decisive in the field of computer-implemented inventions.

In the US, *Benson* could have been a rejection of the patentability of software. The Supreme Court has, however, adopted a method of assessment, initiated by

⁶ P. Mathély, “Note under Paris, 22 May 1973” [1973] Ann. propr. ind. 275.

⁷ *Gottschalk v Benson* 409 U.S. 63, 175 U.S.P.Q. 673 (1972).

⁸ P. Samuelson, “Benson Revisited: The Case Against Patent Protection for algorithms and other computer program-related inventions (1990) 39 Emory L.J. 1025. See, contra, D.S. Chisum, “The patentability of algorithms” (1986) 47 U. Pitt. L. Rev. 959.

⁹ *Parker v Flook* 437 U.S. 584, 198 U.S.P.Q. 193 (1978).

the CAFC, which avoids the exclusion of software: the *Freeman–Walter–Abele* test. The foundations of the test are emphasised in the *Freeman* case.¹⁰ It involves two steps. First, the judge assesses whether the claim relates directly or indirectly to an algorithm. Then, if the answer is in the affirmative, the judge looks to see whether the claim, taken as a whole, concerns a process within which the algorithm is only an accessory. In *Walter* the second step was established: an algorithm is not the essential element of an invention when its implementation improves the operation of the machine.¹¹ Finally, in *Abele*, the court specified that the improvement could involve structural relationships between the physical elements and steps of the process. This reasoning was finally retained¹² by the Supreme Court in the case *Diamond v Diehr*.¹³ The patent in question concerned a method of regulation for the vulcanisation of rubber. It was decided that the claim should be considered as a whole and that therefore the algorithm participated in a process that performs a function contributing to the state of the art. Such a process was therefore patentable. The USPTO took note of this evolution of case law. As early as 1981, the *Examination Guidelines* dedicated to mathematical algorithms and to computer programs were published.¹⁴ This was to recognise that only the algorithm as such and the computer program as such were not patentable and that their simple integration with a machine automatically guaranteed the patentability.

The latest decisive development is the *Alappat* judgement rendered by the CAFC.¹⁵ The *Alappat* case constitutes the origin of the evolution of American law on program-product claims. The application in question concerned a system of smoothing the curves of an oscilloscope. This system was based on an algorithm able to adjust the light intensity of pixels to smooth curves displayed. The applicant argued that Claim 15, which related to the calculation of smoothing a curve, was an algorithm. The CAFC rejected this argument, holding that the claim concerned the machine and not the algorithm it was implementing.

Two interpretations of *Alappat* were possible.¹⁶ According to the first interpretation, the contested claim was admissible because it concerned a microprocessor running with the aid of an algorithm with an oscilloscope. The court then recognised the patentability of the machine programmed. According to the second interpretation, the contested claim was admissible because it concerned a

microprocessor running with the aid of an algorithm with an oscilloscope or with any other machine; the court then recognised the patentability of the algorithm as such. This second interpretation was tantamount to recognising the admissibility of a product-program claim. In the *Warmerdam*¹⁷ and *Trovato I*¹⁸ cases, the court adopted the first interpretation. In *Lowry*,¹⁹ it adopted the second. The USPTO has finally published guidelines recognising the admissibility of program-product claims.²⁰

In Europe, EPO Technical Board of Appeal 3.5.01 rendered a fundamental decision in the case of *Vicom*.²¹ A request had been filed for an ordinary computer equipped with a new function for filtering images. This function was performed by software. The Examining Division had rejected the application because it was a computer program as such. The Technical Board of Appeal 3.5.01 reversed this decision in holding this:

“An invention which would be patentable in accordance with the traditional criteria for patentability should not be excluded from protection simply due to the fact that modern technical means in the form of a computer program are employed to achieve this; the determining criterion being, in this case, the contribution to the state of the art the invention as defined in the claim and considered as a whole.”

We therefore had to find whether the claimed invention, as a whole, made a contribution to the state of the art. This position was confirmed in the case of *Koch & Sterzel*: the technical character of the invention, and therefore its patentability, should be assessed in the light of the contribution of the invention, taken as a whole, to the state of the art.²² Thus, the EPO adopted a position like that of the decision in *Diehr*.

With resolution Q133, in 1997, the AIPPI recalled that, according to TRIPS, patents must be able to be issued without discrimination in all technical areas and that “the technical character of computer software must be generally recognized”, so that software must be patentable when it satisfies the conditions of patentability. Therefore, nothing justifies a particular treatment for the software. Special rules relating to the description and the claims are not recommended either. The AIPPI thus recommends eliminating any limitation of patent law concerning software in national and international texts.

¹⁰ *In re Freeman* 573 F. 2d 1237; 197 U.S.P.Q. 464 (CCPA 1978) (typographer informatics).

¹¹ *In re Walter* 618 F. 2d 758, 205 USPQ 397 (CCPA 1980) (method of oil exploration).

¹² *In re Abele* 684 F. 2d 902 (CCAC 1982) (method of improvement of a computerised tomography).

¹³ *Diamond v Diehr* 450 U.S. 175, 209 U.S.P.Q. 1 (1981).

¹⁴ USPTO, *Manual of Patent Examining Procedure* (4th edn 1979, rev. 1981), §2110.

¹⁵ *In re Alappat* 33 F. 3d 1544, 3E1 U.S.P.Q. 2d 1557 (Fed. Cir. 1994). See R.H. Stern, “Solving the algorithm Conundrum: after 1994 in the Federal Circuit Patent law needs a radical Algorithmectomy” (1994) 22 AIPLA Q.J. 167; R.H. Stern, “Tales from the algorithm War: Benson to Iwahashi: it’s Déjà Vu All Over Again” (1991) 18 AIPLA Q.J. 371; A.B. Wagner, “Article of Manufacture’ Patent Claims for Computer Instruction, An Attempt to Rationalize Floppy Disk Claims” (1998) 17 J. Marshall Computer & Info. L. 183.

¹⁶ D.S. Bir, “The Patentability of Computer Software after Alappat: Celebrated Gold Processing Status Quo?” (1995) 41 Wayne L. Rev. 1531.

¹⁷ *In Re Warmerdam* 33 F. 3d 1354; 31 U.S.P.Q. 2d 1754 (CAFC 1994).

¹⁸ *In Re Trovato I*, 42 F. 3d 1376 (CAFC 1994).

¹⁹ *In Re Lowry* 32 F. 3d 1579; 32 U.S.P.Q. 2d 1031 (CAFC 1994).

²⁰ *US Federal Register*, Vol.61, No.40 (28 February 1996), p.7478.

²¹ EPO, TBA 3.5.1, July 15, 1986, *VICOM/Invention concerning a computer* (T-208/84) [1987] E.P.O.R. 74, p.14.

²² *KOCH & STERZEL/Radiological Equipment* (T-26/86) [1988] E.P.O.R. 72 at 19.

This Resolution seems to reflect a reasonable position, although it was surprisingly controversial before being rejected during the discussions in the European Parliament. The EPO admitted the claims of program-products as early as 1998 in the case of *IBM I*. Board of Appeal 3.5.1 of the EPO in this case relied on an additional technical effect to accept a product claim on a computer program in T-1173/97, called *IBM I*, rendered in 1998.²³ The claimed invention was related to a method of resource recovery inside a computer system. The Examining Division rejected the application. The rejection concerned the independent claims 20 and 21, which were a computer program as a product. These claims concerned a computer program as such. The examiners concluded that they were inadmissible according to paras (2)(c) and (3) of art.52 of the EPC. This rejection was reversed. The Technical Board of Appeal 3.5.01 reminds us that it is the absence of technicality which justifies the exclusions listed in art.52 of the EPC. Each item listed is likely to be the subject of an invention, provided that the latter produces a technical effect. The technical effect lies not in the electrical current produced by the insertion of the program in the machine. In this case, the technicality depends on the production of a second technical effect, a further technical effect.²⁴

In 2003, at the Congress of Lucerne, the AIPPI directly took a position concerning the Draft Directive while under discussion in the European Parliament. This resolution, Q132, contains several observations stressing that the discussions had been influenced by an “incomplete understanding of the laws of patent”, and then recommends a rejection of amendments issued in the European Parliament while also recommending that “computer-implemented inventions can be patented and not treated in a more restrictive way than the other inventions”. This position did not put an end to the artificial dialectic between the proponents of patentability, on the one hand, and the proponents of the free software, on the other hand. The dialectic created between software copyright and patent law finally convinced the European Parliament.

At the same time, between 1997 and 2002, American case law was evolving toward a strong liberalism, since the CAFC admitted that the patentability was to extend to all types of things, including business methods. The famous *State Street Bank* decision, Judge Rich’s last case, was the source of this movement. The CAFC effectively admitted the protection of a business method in its *State Street Bank* decision. The patent at issue concerned a method of managing pension funds. The title had been issued by the USPTO and then invalidated by the District Court of Massachusetts. The latter had felt that it was based on an intellectual method, which did not qualify as an invention of process, because it did not generate a

transformation of Nature.²⁵ This decision was reversed on appeal.²⁶ It was found that the qualification of invention was not dependent on a transformation of Nature, but of its ability to generate a useful, concrete and tangible result. Thus, in the present case, the method for managing pension funds, was patentable, because it converted a sum of dollars into a common final price.

At the beginning of the 2000s, the EPO implicitly recognised that business methods were patentable in the *PBS* case.²⁷ Decision T-931/95 laid the first stone for the literal interpretation approach. The invention claimed concerned a computerised system of control of pension funds facilitating their management by centralising all the contributions. Two claims were raised. The first was related to a method of control of the system. The second was related to the device performing this method. The Examining Division rejected the application on the grounds that it concerned a method in the field of economic activities whose patentability was excluded by art.52(1)(c) EPC. The technical Board of Appeal 3.5.01 reversed this rejection. According to the Board, the patentability of an invention depends on the type of claim. The claim for an intellectual method belonging to business methods must be rejected in a strict manner. We are in the presence of such a method when the claimed invention aims at an economic purpose and produces no technical effect. Its simple realisation by a machine is insufficient to make it technical. On the contrary, the claim concerning a device is intrinsically technical. In the present case, the invention relating to the device used to control the pension system was technical. But the improvement of the management of pension funds, which was made by this device, fell within the sector of the economy. In other words, the inventive contribution of the claimed invention was not technical. The invention was obvious from a technical point of view, because it focused on the simple implementation of a method. It was not patentable due to a lack of an inventive step.

The Melbourne Congress was held a few months after the *PBS* decision, in March 2001. The question of “Patents” was then dedicated precisely to the patentability of business methods. A Recital clarifies that “the question of the protection of business methods is raised due to the widespread use of computers and the development of software”, and then that “the AIPPI has formally pronounced in favor of patent protection of software”. These indications seem important to the extent that they remind us very clearly of the link existing between the intellectual methods, on the one hand, and the computer, on the other hand. Indeed, the intellectual methods claimed are almost always claimed via their computer implementation. It is often an electronic commerce method for the internet. Furthermore, the Recitals also recall that, according to art.27 of TRIPS, inventions are

²³ *IBM/Product program of computer* (T-1173/97) [2000] E.P.O.R. 219 at 609.

²⁴ *IBM/Product program of computer* (T-1173/97) [2000] E.P.O.R. 219, Pt 6.4.

²⁵ *State Street Bank & Trust Co v Signature Financial Group Inc*, 927 F. Supp. 502; 38 U.S.P.Q. 2d 1530 (D. Mass. 1996).

²⁶ *State Street Bank Trust v Signature Financial Group*, 149 F. 3d 1368; 47 U.S.P.Q. 2d 1596 (CAFC 1998).

²⁷ *PENSION BENEFIT SYSTEMS PARTNERSHIP (PBS)/Control of a system of pension fund* (T-931/95) [2002] E.P.O.R. 52 at 1441.

patentable in all fields of technology, as patent law has always adapted as new technologies emerge. However, creations that are purely abstract must remain excluded, and only technical inventions should be protected by patents. These principles established, the AIPPI considers that patents on business methods must be admitted when they satisfy the condition of technical character. The assessment of the patentability of these inventions must be carried out in the same way as for the other inventions. Nevertheless, a limit was established: the translation of a method in the form of software is not enough to access patentability. In other words: the simple implementation of a method is not patentable.

Finally, until resolution Q132, in 2003, the entire legal system of patent law was always directed toward more liberalism. In doing so, case law progressively restricted the field of patentability until that field was literally empty of its substance. We will see that the developments have since been geared more toward the reconstruction of a limit to patentability without any reference to the field of patentability.

Since 2017—a new focus on an eligibility criterion?

The period separating the Melbourne Congress from the Sydney Congress has been marked by the back-peddalling of US jurisdictions in relation to the liberal attitude previously adopted in terms of eligibility for protection, especially regarding business methods. It is particularly notable that the recent American case law reveals the importance of a requirement of tangibility close to the requirement of technical character. This context explains why the question under consideration at the Sydney Congress was oriented towards the search for an eligibility criterion.

The context of the Sydney Resolution

In 2004, the *Hitachi* decision rendered by technical Board of Appeal 3.5.01 of the EPO completed the establishment of the method of assessing the patentability of computer-implemented inventions. In fact, that decision gave a decisive inflection to the approach outlined in Case T-931/95. The invention claimed was a method of automatic auction executed by a computer server. This method featured the advantage of not requiring the presence of bidders to their terminals. The Examining Division rejected the application ruling that it was for a method in the field of economic activities. Technical Board of Appeal 3.5.01 reversed this rejection. It was considered that the insertion of technical means known in the claim was sufficient to ensure the technicality of the invention.

According to *Hitachi*, an excluded element is no longer an element “as such” within the meaning of art.52(3) as soon as it is linked to known technical means. The existence of a single technical step in a process allows it to qualify as technical in its entirety. This is what we called “the hardware approach”. This assessment of patentability is thus independent of the category of claim. This reasoning was approved by the Grand Chamber of Appeal in the case of G 03/08.

In US, the “machine or transformation” test in *Bilski* case replies to the controversy raised by *State Street Bank*.²⁸ The application in question concerned a method of brokerage intended to limit the risks taken by the purchasers and by the sellers. The application had been rejected by the examiner because it did not meet the “technological arts” test. The Board of Appeal of the USPTO has confirmed this decision, while believing that the test of “technological arts” was inappropriate. It was appropriate to rely on the utility test emerged in *State Street Bank*. This decision was reversed on appeal. The court ruled that neither the “technological arts” test nor the utility test was satisfactory.²⁹ Certainly, methods of business remained patentable. But there was a need to adopt another test: the “machine or transformation”. A process is thus patentable if it is linked either to a machine or to a transformation of Nature. The Supreme Court has confirmed in part the decision stating that other tests were also valid. In addition, the court has refused to exclude the patentability of business methods.

In any case, *State Street Bank* has shaken the whole system of American patent law, and it does not appear to have totally recovered since, as illustrated by the implications in cases such as *Alice*.³⁰ The facts of *Alice* were the following: the company Alice had a family of four patents relating to a platform used to drive a financial transaction where a third party intervenes to prevent the failure of a party during the regulation (settlement risk). The claims concerned a method for limiting the risks in the financial exchanges implemented on an ordinary computer. CLS Bank, a consortium of banks, subsequently implemented a payment system to eliminate the risk of regulation. Alice introduced an action for infringement against CLS Bank. A counterclaim for revocation of the patent invoked was formed. The district court of the District of Columbia has invalidated patents because they concerned an abstract idea: the use of an intermediary to facilitate the simultaneous exchange of obligations to minimise the risk.³¹ This decision was confirmed by the CAFC.³² The decision is based on the test identified by the Supreme Court in the case of *Mayo v Prometheus*.³³ This test includes two steps. First, we must determine if we are in the presence of an abstract idea. If that is the case, then it must be determined

²⁸ *Ex p. Bilski*, 2006 WL 5738364 (BPAI, 26 September 2006).

²⁹ *In re Bilski*, 545 F. 3d 943, 88 U.S.P.Q. 2d 1385 (CAFC 2008).

³⁰ See M. Dhenne, “L’arrêt Alice de la Cour Suprême des États-Unis : l’adieu au pays des merveilles” [2016] Propri. industr. étude 9.

³¹ *CLS Bank Int'l v Alice Corp.*, 667 F. Supp. 2d 29 (D.D.C. 2009).

³² *CLS Bank Int'l v Alice Corp.*, 717 F. 3d 1269, 1274 (CAFC 2013). The CAFC (Court of Appeal of the Federal Circuit) was introduced in 1982, and is exclusively competent for the calls in the field of Patent Law.

³³ *Mayo v Prometheus*, 132 S. Ct 1289 (2012).

whether significant additional features are claimed. In this case it was held that the method was abstract and was only implemented on a regular computer. Thus, the four patents were cancelled. The Supreme Court confirmed this position while specifying the *Mayo* test. However, the District Courts rely on *Alice* to exclude the patentability of business methods and sometimes even that of software. However, the Supreme Court did not support such exclusions, while the exclusion of abstract ideas and the method of assessment used by the Supreme court only corresponds to Freeman-Walter-Abele test. These difficulties raised by *Alice* constitute the source of the last resolution of the AIPPI on computer-implemented inventions.

The Sydney Resolution itself

In 2017, the Study Guidelines devoted to CII patentability emphasised the differences separating the European, American and Japanese practices. In particular, they underline the failure of the AIPPI resolutions, which were not followed in practice. We see here the originality of this resolution: it is based on the failure of the Organization in its mission to harmonise patent law. The National Groups have finally been invited to pay more attention to the criteria of demarcation between patentable and not patentable as to the claimed invention (i.e. software or business method).

In its resolution, the AIPPI recalled that inventions must be patentable in all fields of technology. Thus, computer-implemented inventions should not be excluded from patentability, which includes, in accordance with Resolution Q133, computer programs. Finally, a claim is eligible if it aims at an invention in a technological field and it must not be different for computer-implemented inventions. The eligibility for the protection of the latter must not depend on the novelty and inventive step.

The intake of this resolution appears rather thin at first glance. There was no real firm stance taken by the Organisation, as had been the case previously, except perhaps in Q57. But, paradoxically, it will perhaps be, with Q57, the resolution that will stand the test of time in the matter, if only by the spirit that underlies it, on the one hand, and by the implicit positions that it conceals, on the other hand. This resolution calls into question the previous positions of the AIPPI. But, especially, it adopts a new angle. Previously, the question was always as to whether an object was or was not excluded from the field of patentability. It was, in other words, to outline the area of patentability and to reshape it in the light of developments in the techniques and practices. This time the object of the study constitutes an invention likely to meet at least two exclusions: computer programs and business methods. The angle is therefore different because we no longer focus on the field of patentability, but on the criteria for determining whether an invention is or is

not eligible for protection. Eligibility must be linked to the technicality and detached from the novelty and inventive step, but how can we understand this concept of technicality? The AIPPI has not managed to go any further than anyone else. The question having nevertheless been raised during the Congress, by the French group. It is interesting to note that the French group's report presents the merits of defining precisely what the criteria for technical character should be. According to this report, the technicality would require that the invention is operational and has a concrete and direct application:

“• **Operational:**

the need to be able to run and reproduce the invention implies that it is fully defined in the patent. A contrario, it may not be a general function, or a function requiring a/of human interventions for its implementation.

• **A direct application:**

a contrario, if its usefulness is that social and distant, for example an economic utility, its patentability must be excluded.

• **A concrete application:**

a contrario, the patentability of activities which would remain the domain of the abstraction is excluded. However, this does not imply that a material result is required.”

This definition is similar to the one that we already proposed in our doctoral thesis, where the technicality was understood as the requirement of an operational utility, which implies not only that the invention be executable, but also that it has a direct application, as opposed to a distant goal, and that it is a concrete, as opposed to an abstract achievement. Similarly, we already proposed to draw inspiration from the criterion of adequacy of the description to assess this form of utility.³⁴

The patentability of computer-implemented inventions is without doubt a thorny issue. The original rejection of patent protection of computer programs is the core of the problem. Copyright was never designed to effectively protect such technical achievements. From then on, two difficulties converged to become inextricably linked: first, the economic actors have sought to circumvent the exclusion; then, the unprecedented evolution of technology has considerably complicated the perception of this technology by the law. Software was originally easily distinguishable, as long as it corresponded to a perforated card introduced into a machine. But, with its dematerialisation, it became more and more difficult to distinguish what was tantamount to the *software* aspect or to the *hardware* aspect. These difficulties certainly explain the hesitations of the AIPPI in the matter. However, the resolutions adopted allow us to glimpse a fundamental change towards a consideration for fixing

³⁴ See M. Dhenne, *Technique et droit des brevets: L'invention en droit des brevets* (LexisNexis, Bibl. dr. entreprise, 2016), n° 530; p.308.

eligibility criteria, as the criteria for technical character, without touching the field of patentability any longer. The definition of such criteria, which could respond to

the requirement of legal security, while maintaining sufficient flexibility of patent law, seems to be the most promising way.