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Mr Peter Messerli
Chairman of the Enlarged Board of Appeal
Room 1066

European Patent Office
80298 Munich
Germany

Alison Brimelow
President

Tel. +49 (0)89 2399 - 1000
Fax +49 (0)89 2399 - 2892
president@epo.org

22.10.08

Referral under Article 112(1)(b) EPC

Dear Mr Messerli,

In accordance with Article 112(1)(b) EPC, I herewith refer the enclosed point of law to the Enlarged Board of Appeal. This point of law, which concerns the application of the exclusion of computer programs as such, is of fundamental importance as it defines the limits of patentability in the field of computing.

Yours sincerely,

Alison Brimelow
President

European Patent Office
Erhardtstr. 27
80469 Munich
Germany

www.epo.org

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1. SUMMARY OF THE REFERRAL

Even in the 1960s, as the founding fathers of the European Patent Office drafted a new European patent law, it was clear that the patentability of computer programs was a complex issue. Legislative attempts to change or clarify the law in this field have met with more controversy than success, although Article 52 EPC was amended to state that inventions 'in all fields of technology' are patentable, thus making an implicit requirement explicit.

As the EPC was drafted, the feeling was that it was better not to define the exclusion precisely in law, but rather that the matter should be left in the hands of the EPO and the national courts. This flexibility is important as technology develops and new technologies emerge. Nevertheless, to quote a working group in 1972: "it was stressed that a matter as important as computer programmes should not be left in a state of prolonged uncertainty pending legal developments"¹. Diverging decisions of the boards of appeal have indeed created uncertainty, and answers to the questions arising from these decisions are necessary to enable the further, harmonious development of case law in this field.

Currently there are concerns, also expressed by national courts and the public, that some decisions of the boards of appeal have given too restrictive an interpretation of the breadth of the exclusion. It is clear that the European Patent Office should have the leading role in harmonising the practice of patent offices within Europe.

The four questions have been chosen to look at four different aspects of patentability in this field. Firstly the relevance of the category of the claim is questioned. The next three questions concern themselves with where the line should be drawn between those aspects excluded from patentability and those contributing to the technical character of claimed subject-matter: the second question concerns the claim as a whole; the third, individual features of a claim; the fourth, relevant for defining the skills of the (technically) skilled person, concerns the activity (programming) which underlies the resulting product (computer program).

It is hoped that the referral of these questions to the Enlarged Board of Appeal will lead to more clarity concerning the limits of patentability in this field, facilitating the application of the law by examiners and enabling both applicants and the wider public to understand the law regarding the patentability of computer programs according to the EPC.

¹ 5th Meeting of the Inter-Governmental Conference for the Setting up of a European System for the Grant of Patents, held on 24-25 January and 2-4 February 1972, BR/168 e/72 eld/KM/gc, p14, 36

2. DEFINITIONS

A computer program is a series of steps (instructions) which will be carried out by the computer when the program is executed.

A computer is understood to include not only devices which are generally thought of as such, for example desktop PCs, but any programmable apparatus (such as a mobile phone or an embedded processor).

The term 'computer program' ('program' for short) is synonymous with 'software' and a 'program for a computer'.

For the purposes of this referral, the methods referred to in hypothetical examples are intended to be methods which can be implemented wholly by computer.

3. QUESTIONS TO BE REFERRED

3.1. QUESTION 1

CAN A COMPUTER PROGRAM ONLY BE EXCLUDED AS A COMPUTER PROGRAM AS SUCH IF IT IS EXPLICITLY CLAIMED AS A COMPUTER PROGRAM?

I Background

In the 1990s, applicants started to formulate claims for their computer implemented inventions in terms of the computer program, e.g. 'Computer program for carrying out method X' or 'Computer readable medium for storing a computer program for carrying out method X'. The latter formulation and equivalents are referred to as a computer program product claims (CPPs). These formulations are clearly important for applicants as they are routinely included in patent applications in the field of computer technology.

In this field, claim formulations along the following lines are common:

- methods
- systems (i.e. computer systems)
- computer-implemented methods
- computer programs
- computer program products, storing a computer program.

However, the substance of these claims, i.e. the underlying method to be performed by a computer, is often identical.

Recently, in the light of an England and Wales Court of Appeal judgement, the UK Intellectual Property Office issued a practice notice² stating that it seemed likely that few claims to programs or programs on carriers would avoid the exclusion from patentability of programs for computers as such. In practice they rejected nearly all such claims.

In response to a growing dissatisfaction from applicants, a set of test cases were constructed to have the issue decided by the UK courts, and the practice notice was overruled in this respect³. Thus the importance of such claim formulations for applicants is apparent.

II The diverging decisions

Regarding decision **T 1173/97**⁴, the subject-matter of the application that was subject of the appeal related to recovering resources in a computer system. Independent claims defining a method for resource recovery in a computer system and a computer with means for carrying out the method were found to be allowable by the Examining Division.

² Practice notice dated 2 November 2006, point 14:

www.ipo.gov.uk/patent/p-decisionmaking/p-law/p-law-notice/p-law-notice-subjectmatter.htm

³ Practice notice dated 7 February 2008:

www.ipo.gov.uk/patent/p-decisionmaking/p-law/p-law-notice/p-law-notice-subjectmatter-20080207.htm

⁴ T 1173/97 - Computer program product/IBM (OJ EPO 10/1999, 609)

The application was refused only because of two further independent claims directed at a corresponding computer program product. The Examining Division followed the EPO Guidelines valid at the time which stated that a computer program claimed by itself or on a carrier, irrespective of its contents, is excluded from patentability under Art. 52(2) and (3) EPC. The Division considered that economic considerations and international developments (e.g. TRIPS and new practices of other patent offices) could not be taken into account.

The Board was not bound by the Guidelines and in this decision it chose not to follow them. It noted that TRIPS may not be directly applied to the EPC; nevertheless it was taken into consideration and found not to preclude the patenting of computer programs. The Board then set about interpreting the exclusion from patentability of programs for computers as set out in the EPC.

From the combination of the two provisions (Art. 52(2)(c) and (3) EPC), the Board decided that the legislator did not want to exclude from patentability all programs for computers (Reasons, 4). In other words, the Board found that of all computer programs, there existed a subset (computer programs as such) which was excluded from patentability. Those computer programs which were not in this subset were not excluded from patentability.

The Board further concluded (Reasons, 5.2-5.4) that programs for computers are patentable when they have technical character; technical character being an essential requirement for patentability. It considered this to be in line with the exclusion of Art. 52(2)(c) EPC and the requirement that the exclusion be interpreted narrowly (Art. 52(3) EPC).

Decision **T 424/03**⁵ concerned an application disclosing a method of providing expanded clipboard formats for transferring data between formats. The clipboard is a storage area used in the common computer commands 'cut', 'copy' and 'paste'.

In this decision, the Board distinguished a method implemented in a computer system from a computer program. The former was described as a sequence of steps that are actually performed on a computer and achieving an effect. The latter was described as a sequence of computer-executable instructions which just have the potential of achieving such an effect when loaded into, and run on, a computer. Thus a computer implemented method can never be a computer program as such. The Board then introduced a claim category of 'computer program' (Reasons, 5.1).

III The divergence

T 1173/97 placed the emphasis on the function of the computer program (does the claimed program have technical character) rather than the manner in which it is claimed (e.g. as a computer program, a computer program product or a computer-implemented method). It noted that a computer program or computer program product does not directly disclose a technical effect in physical reality; this only becomes the case when the computer program is run on a computer. However, it saw no reason to distinguish between

⁵ T 424/03 - Clipboard formats/MICROSOFT

a direct technical effect and the potential to produce a technical effect (an indirect technical effect) (Reasons, 9.4).

On the other hand, T 424/03 placed emphasis on the manner in which the computer program is claimed. One can consider the case of a method 'x' which is suitable to be implemented on a computer. Following the reasoning of this decision, only a claim of the form 'computer program for method x' could possibly be excluded from patentability as a computer program as such, whereas claims of the form 'computer implemented method x' or 'computer program product storing executable code for method x' would not be excluded (irrespective of the nature of the method x).

IV Consequences

In the field of computer technology, innovation frequently lies in the particular method performed by a computer program while executed by conventional hardware. Consequently, the exclusion of computer programs as such under Article 52(2) and (3) EPC should be of key importance in this field. However, if one were to follow the reasoning of T 424/03, overcoming the exclusion of programs for computers would become a formality, merely requiring formulation of the claim as a computer implemented method or as a computer program product.

3.2. QUESTION 2

(A) CAN A CLAIM IN THE AREA OF COMPUTER PROGRAMS AVOID EXCLUSION UNDER ART. 52(2)(C) AND (3) MERELY BY EXPLICITLY MENTIONING THE USE OF A COMPUTER OR A COMPUTER-READABLE DATA STORAGE MEDIUM?

(B) IF QUESTION 2 (A) IS ANSWERED IN THE NEGATIVE, IS A FURTHER TECHNICAL EFFECT NECESSARY TO AVOID EXCLUSION, SAID EFFECT GOING BEYOND THOSE EFFECTS INHERENT IN THE USE OF A COMPUTER OR DATA STORAGE MEDIUM TO RESPECTIVELY EXECUTE OR STORE A COMPUTER PROGRAM?

I Background

It is established that if the subject-matter of a claim has technical character, then it is not excluded from patentability under Art. 52(2) and (3) EPC. However, in the case of claims in the area of programs for computers (worded, for instance, explicitly as programs for computers or as methods carried out by computers), there is uncertainty about when exactly features can confer technical character to such claims.

The very purpose of a computer program is to be executed by a computer, and to be executed by a computer it must be stored on a computer-readable data storage medium. Even though both the computer and the data storage medium are without doubt technical apparatus, the implicit use of a computer or data storage medium cannot be sufficient to avoid exclusion of computer programs as such. Otherwise the exclusion would be rendered void.

II The diverging decisions

T 1173/97 found (see section 3.1) that a computer program must be considered to be patentable when it has technical character (Reasons, 5.3).

In determining what constituted ‘technical character’ for a computer program, it was assumed that programs for computers cannot be considered as having technical character for the very reason that they are programs for computers (Reasons, 6.1). Thus the physical modifications of the hardware (causing e.g. electrical currents and the switching of transistors) deriving from the execution of the instructions given by programs for computers cannot per se constitute the required technical character. The technical effect had to be found in the further technical effects deriving from the execution (by the hardware) of the instructions given by the computer program.

Thus the conclusion of the Board was (Headnote): “A computer program product is not excluded from patentability under Art. 52(2) and (3) EPC if, when it is run on a computer, it produces a further technical effect which goes beyond the ‘normal’ physical interactions between program (software) and computer (hardware)”. The Board further noted that (Reasons, 13, 5th paragraph), regarding the exclusions under Art. 52(2) and (3) EPC, it

does not make any difference whether a computer program is claimed by itself or as a record on a carrier.

T 258/03⁶ (Headnote I) found that any method involving technical means is an invention in the sense of Art. 52(1) EPC - i.e. is not excluded from patentability under Art. 52(2) and (3) EPC. This position was supported by various subsequent decisions including T 424/03 (Reasons, 5.1, 2nd paragraph) and T 1284/04⁷ (Reasons, 2).

III The Divergence

Method claims are, in essence, a series of instructions or steps which are to be carried out by any capable entity (this could be a person, a machine, a combination thereof or indeed a computer). A computer implemented method corresponds to the specific case of the entity for carrying out the steps being a computer. In the same way a computer program is a series of instructions or steps, constituting a method, whereby the instructions or steps are carried out by a computer. Thus claims for a computer program and a computer implemented method can be seen as having identical scope. Following this line of thought, the scope of a method claim would encompass a computer program for carrying out that method. This was also the view given in T 38/86⁸ (Reasons, 14).

Regarding T 1173/97, in its analysis of TRIPS (Reasons 2.3) the Board noted that Art. 27(1) TRIPS states that 'patents shall be available for any inventions, whether products or processes, in all fields of technology'. It interpreted this provision as not excluding programs for computers. Consequently the Board must have equated programs for computers to either a product or a process.

Further on in the decision, the Board indicated that the substance of a computer program claim lies in the method which it is intended to carry out when being run on a computer (Reasons, 9.6, 2nd paragraph, lines 1-3). As such it must be assumed that the Board considered 'programs for computers' to be a type of method claim. This would also be in line with G 2/88⁹ (Reasons, 2.2) which defines the two basic types of claims as being physical entities and physical activities.

Unlike an apparatus, which could be infringing whether it is actually operating or not, a method is only (directly) infringed when the method is carried out, whether by a computer or another entity. As such, it seems illogical to distinguish between computer implemented methods and computer programs which will cause a method to be implemented.

The divergence arises when one considers the same method claimed in the form of a computer implemented method or as a computer program. Following T 258/03, the former claim form requires only that technical means are involved (the computer) in order for it to be considered as having technical character. For the latter claim form, on the other hand, this is not sufficient. In this case a further technical effect is required which must go beyond the normal technical effects resulting from the involvement of a computer. Thus different standards for deciding on patentability are applied to the same subject-matter.

⁶ T 258/03 - Auction method/HITACHI (OJ EPO 12/2004, 575)

⁷ T 1284/04 - Loan system/KING

⁸ T 38/86 - Text processing/IBM (OJ EPO 9/1990, 384)

⁹ G 2/88 - Friction reducing additive/MOBIL OIL III (OJ EPO 4/1990, 93)

3.3. QUESTION 3

(A) MUST A CLAIMED FEATURE CAUSE A TECHNICAL EFFECT ON A PHYSICAL ENTITY IN THE REAL WORLD IN ORDER TO CONTRIBUTE TO THE TECHNICAL CHARACTER OF THE CLAIM?

(B) IF QUESTION 3 (A) IS ANSWERED IN THE POSITIVE, IS IT SUFFICIENT THAT THE PHYSICAL ENTITY BE AN UNSPECIFIED COMPUTER?

(C) IF QUESTION 3 (A) IS ANSWERED IN THE NEGATIVE, CAN FEATURES CONTRIBUTE TO THE TECHNICAL CHARACTER OF THE CLAIM IF THE ONLY EFFECTS TO WHICH THEY CONTRIBUTE ARE INDEPENDENT OF ANY PARTICULAR HARDWARE THAT MAY BE USED?

I Background

Regardless of the question whether exclusion under Art. 52(2) and (3) EPC can be avoided simply by choosing an appropriate form of claim, it will always be necessary to evaluate the effects caused by individual features or combinations of features to determine whether they contribute to the technical character of a claim. Determining this contribution is always relevant for evaluating the further requirements of the EPC (such as inventive step). It is noted that no distinction is made here between those physical entities or hardware that are inside a computer and those that are outside.

II The diverging decisions

Decision **T 163/85**¹⁰ was concerned with a claim directed at a television signal which inherently comprised the technical features of the TV system. The Board considered that the non-exhaustive list of exclusions under Art 52(2) and (3) EPC could be generalised to subject-matter which is essentially abstract in nature, which is non-physical and therefore not characterised by technical terms. The Board found that the signal as claimed was a physical reality which could be directly detected by technological means, which therefore was not an abstract entity. Also in **T 190/94**¹¹, the claimed system was found to make a contribution to the art in a field not excluded from patentability because the difference (of the claimed subject-matter over the prior art) manifested itself in the real world in a technical effect on a physical entity.

Decision **T 424/03**, which was concerned with the transfer of data on a computer via a clipboard, considered the method itself to have technical character (i.e. not only because it was claimed as a computer-implemented method). This was because functional data structures were used independently of any cognitive content in order to enhance the internal operation of a computer system with a view to facilitating the exchange of data among various application programs (Reasons, 5.2). According to claim 1 (Facts and submissions, IV), these data structures (clipboard formats) are defined by their purpose ('text', 'file contents' and 'file group descriptor'). It is further specified that the selected data

¹⁰ T 163/85 - Colour television signal/BBC (OJ EPO 9/1990, 379)

¹¹ T 190/94 - No headword

is converted into the file contents clipboard format and stored as a data object, and that the 'file group descriptor clipboard format' is used to hold a file group descriptor holding descriptive information about the data object.

Following a similar line to decision T 424/03, decision **T 125/01**¹² concerned a control unit for a telecommunications apparatus, e.g. a car radio, whereby the characterising portion of the claim related to how the microprocessor operated in response to user input via buttons. The features of the claim that were novel over the prior art consisted of the use of a single table for permitted operating states, rather than a plurality of tables (Reasons, 3.3). The Board accepted that the corresponding problem, as cited in the patent at issue, was the ease of modification and therefore flexible applicability of the control module. It likened the situation to that of a hardware interface, for which a similar problem would clearly be seen as technical.

III The divergence

According to decisions T 163/85 and T 190/94, a technical effect on a physical entity in the real world was required. This was however not the case in T 125/01 and T 424/03. In these decisions the technical effects were essentially confined to the respective computer programs.

For T 125/01 this consisted of writing a program in such a way - via the choice of single or multiple tables - that it can be easily extended. This did not affect the modification of the hardware (a physical entity), but merely simplified the process of (re)programming the control module to adapt the program to work with the modified hardware.

In T 424/03, the various clipboard formats which were seen as functional data structures bore no relation to any technical features of the system in which they were used. The effect of simplifying data transfer between or within applications is also an effect independent of the hardware used.

In the case of features related to computer programs whose effects are confined to the internal working of the computer, there is uncertainty about where the line is to be drawn between technical effects and effects lying solely in the field of programs for computers, in particular if the aspects relating to programming are claimed in any detail.

Following the reasoning of the latter decisions, it would appear that an inventive step could be based on a programmer's choice of elementary programming constructs (tables, loops, subroutines, objects) which solely serve the efficient execution of the program or indeed simplify the programmer's work (e.g. using a subroutine rather than repeating lines of code). It is therefore difficult to contemplate which aspects or effects of a computer program could fall within the exclusion.

¹² T 125/01 - Gerätsteuerung/HENZE

3.4. QUESTION 4

(A) DOES THE ACTIVITY OF PROGRAMMING A COMPUTER NECESSARILY INVOLVE TECHNICAL CONSIDERATIONS?

(B) IF QUESTION 4 (A) IS ANSWERED IN THE POSITIVE, DO ALL FEATURES RESULTING FROM PROGRAMMING THUS CONTRIBUTE TO THE TECHNICAL CHARACTER OF A CLAIM?

(C) IF QUESTION 4 (A) IS ANSWERED IN THE NEGATIVE, CAN FEATURES RESULTING FROM PROGRAMMING CONTRIBUTE TO THE TECHNICAL CHARACTER OF A CLAIM ONLY WHEN THEY CONTRIBUTE TO A FURTHER TECHNICAL EFFECT WHEN THE PROGRAM IS EXECUTED?

I Background

Article 52(2) and (3) EPC defines a non-exhaustive list of subject-matter and activities which, as such, shall not be regarded as inventions. This list includes programs for computers. The Boards of Appeal have consistently grouped the excluded subject-matter and activities under the heading 'lacking technical character' (e.g. T 1173/97, Reasons, 5.2 and T 258/03, Reasons, 3.1).

What is not specified in the EPC is whether, or under which circumstances, the activity associated with creating programs for computers, i.e. programming a computer, is a technical activity which is in principle patentable, or a non-technical activity which is as such excluded from patentability.

The answer to this question affects the definition of person skilled in the art, and consequently the nature of problems that can be presented as the objective technical problem. Therefore, it is of key importance in the field of computer technology that there is clarity concerning the skills attributable to the skilled person.

II The diverging decisions

Decision **T 1177/97**¹³ was concerned with a computer implemented method of translation between natural languages. The Board found (Reasons, 3, 7th paragraph) that "implementing a function on a computer system always involves, at least implicitly, technical considerations". The reference to 'computer routines' makes clear that this implementation consisted of programming the computer (Reasons, 7, 3rd paragraph): "Choosing to apply one or the other [translation] principle has clearly consequences for the technical implementation ... since the computer routines have to work differently".

Furthermore, decision **T 172/03**¹⁴, emphasised (Reasons, 6 and 7) that the person skilled in the art is a technical expert, to whom it is inappropriate to attribute professional competence in non-technological fields. In this decision the Board defined the skilled

¹³ T 1177/97 - No headword

¹⁴ T 172/03 - Order management/RICOH

person as a software project team, consisting of programmers (Reasons, 16). The technical problem posed to this skilled person was the software implementation of the non-technical order management method (Reasons, 20 and 21).

Contrary to these decisions, **T 833/91**¹⁵ (Reasons, 3.2), **T 204/93**¹⁶ (Reasons, 3.2) and **T 769/92**¹⁷ (Reasons, 3.7, 5th paragraph) all considered that a programmer's activity, i.e. writing computer programs, falls within the exclusions set out in Art. 52(2)(c) EPC. The decisions consider programming to be a mental act of the programmer.

III The divergence

It seems that the former decisions view programming along the same lines as the configuration of a technical apparatus. This would of course hold even when the method that the computer is being programmed to carry out is non-technical in nature.

However, it has to be noted that modern (high-level) programming languages do their utmost to render technical considerations unnecessary. The term 'programming' is broad and ranges from writing in low-level languages (e.g. assembly language) which are intimately linked to the hardware being programmed, to high level languages which are truly isolated from any details of the hardware. Even such things as recording a macro (recording a sequence of steps to be carried out on a computer, often in the environment of an office application such as a word processor or spreadsheet) must be considered to be a form of programming, even though this would generally be carried out by an expert, or even a day-to-day user, of the office application rather than a technically skilled computer expert.

The latter decisions place more emphasis on the link between the resulting product, which is as such explicitly excluded from patentability, and the activity of producing it. Decision T 1173/97 also gives an indication (Reasons, 11.4-11.5) that it implicitly agrees with the point of view given in T 204/93. This is further supported by a statement by the United Kingdom delegation in the travaux préparatoires¹⁸, according to which computer programs were to be understood as a 'mathematical application of a logical series of steps in a process which was no different from a mathematical method'.

If a computer program is deemed to lack technical character (i.e. it is a computer program as such), it could follow that the activity used to produce the program has to be considered similarly non-technical in nature.

The effects caused by a computer program (which may or may not contribute to its technical character) may occur when the program is executed (for instance how much memory it occupies, how quickly it carries out the tasks for which it was programmed, etc.). On the other hand, there may be effects relating to software development which affect the programmer in his work (ease of maintenance of the program, flexibility, portability, reusability etc.).

¹⁵ T 833/91 - No headword

¹⁶ T 204/93 - No headword

¹⁷ T 769/92 - General purpose management system/SOHEI (OJ EPO 8/1995, 525)

¹⁸ Minutes of the 9th meeting of Working Party I, Luxembourg, 12-22 October 1971, BR 135 e/71 prk, p50, 96

It seems important to consider the actual tasks performed by a programmer. Would he be responsible for the design of the technical system and the role that the computer program plays therein, and thus be solving technical problems, or would the design be the task of an engineer who would then pass on his (programming) requirements to the programmer?

Furthermore, does the answer depend on whether the considerations of a programmer involve any technical details of the particular computer on which the program will run?

4. THE LEGAL FRAMEWORK

4.1. CURRENT STATUS

Article 52 EPC reads as follows:

Patentable inventions

(1) European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.

(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) Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.

Article 52(2) EPC thus contains a non-exhaustive list of inventions not to be regarded as inventions, whereby its scope is restricted by Article 52(3) EPC which allows only subject-matter or activities referred to in paragraph 2 'as such' to be excluded from patentability.

The wording of Article 52(3) EPC does not provide any guidance as to when an item mentioned in paragraph 2 is to be regarded as an invention.

It is established understanding that an essential element of a 'patentable invention' is its technical character. However, the term 'technical character' has not been defined in the EPC. Although in older case law of the boards of appeal the requirement of a 'technical character' was evaluated by the so-called contribution approach¹⁹, the current consensus appears to be that this approach does not have a legal basis in the EPC²⁰.

¹⁹ For example T 38/86 - Text processing/IBM (OJ EPO 9/1990, 384)

²⁰ For example T 931/95 - Controlling pension benefits system/PBS PARTNERSHIP (OJ EPO 10/2001, 441), Reasons, 2 and 6

Programs for computers are included in the non-exhaustive list of items which as such are not to be regarded as inventions (Article 52(2)(c) EPC)²¹. None of these items are defined, and it is clear from the original travaux préparatoires that the legislator intended to merely lay down general principles and leave the EPO and national courts to interpret these terms²². Nevertheless, it was stressed that “a matter as important as computer programmes should not be left in a state of prolonged uncertainty pending legal developments which, in any case, could differ from country to country”²³. It follows from this that already in 1972 the legislator was aware on the one hand of the difficulties concerning a definition of the term 'programs for computers', and on the other hand of the importance of this (then upcoming) field of development, and wanted to create a unitary legal basis.

4.2. REVISION OF THE EPC (“EPC 2000”)

In 2000, a diplomatic conference was held to have the first major revision of the EPC. The initial proposal²⁴ stated that “[t]he list of items found in Article 52(2) EPC are simply examples of non-technical ‘inventions’, which would remain unpatentable even in the absence of this provision”; therefore it proposed to delete this paragraph. Similar thoughts apparently resulted in the absence of such a paragraph in TRIPS²⁵.

The Committee on Patent Law was unable to reach a conclusive opinion on this proposal²⁶. Nevertheless, the Administrative Council in its 81st meeting decided that the paragraphs 2 and 3 of Article 52 EPC were to be kept in the Basic Proposal drawn up for the Diplomatic Conference, but the reference to ‘programs for computers’ in paragraph 2 was to be deleted²⁷. This was similar to the negotiations that took place in 1973²⁸. Arguments put forward during the negotiations included references to the forthcoming EU Directive on the protection of computer-implemented inventions, and that “the exclusion of patentability of computer programs follow[s] from their lack of sufficient technical character”²⁹.

The Basic Proposal for the Diplomatic Conference reflects the negotiations and thoughts of the preparatory meetings in particular by emphasizing the technical character of a patentable invention and indicating that “[t]he Committee on Patent Law and the

²¹ However, programs for computers were not always included in the proposed list of exclusions - cf. for example preliminary drafts of the EPC (2335/IV/65-E dated 22 January 1965 and BR/70/70 dated 21 December 1970)

²² Cf. Minutes of the 9th meeting of the Working Party I held from 12 to 22 October 1971, in Luxembourg, BR/135 e/71 prk, p50, 96 and Minutes of the Munich Diplomatic Conference for the Setting up of a European System for the Grant of Patents, Munich, 10 September to 5 October 1973, M/PR/I, p28, 18

²³ Cf. 5th Meeting of the Inter-Governmental Conference for the Setting up of a European System for the Grant of Patents, held on 24-25 January and 2-4 February 1972, BR/168 e/72 eld/KM/gc, p14, 36

²⁴ Revision of the European Patent Convention, CA/100/00 e, p39, 6

²⁵ “TRIPS und das Patentierungsverbot von Software ‘als Solche’”, Daniele Schiuma, GRUR Int 1998, p852 ff., 3-4

²⁶ Minutes of the 14th meeting of the Committee on Patent Law, 3-6 July 2000, CA/PL PV 14 e, p26, 156

²⁷ Minutes of the 81st meeting of the Administrative Council, 5-7 September 2000, CA/PV 81 e, p10, 72

²⁸ Comments by CPCCI (Standing Conference of the Chambers of Commerce and Industry of the European Economic Community), 2 April 1973, M/18, p160, 3

²⁹ Minutes of the 81st meeting of the Administrative Council, 5-7 September 2000, CA/PV 81 e, p7, 51a

Administrative Council have advocated the **deletion of programs for computers from Article 52(2)(c) EPC**³⁰.

Although a broad consensus regarding the wording of Article 52 EPC had prevailed prior to the Diplomatic Conference, the French Delegation re-introduced the reference to “programs for computers” during the conference, concerned that removing this exclusion might be seen as a broadening of the range of patentable subject-matter³¹. Similar concerns were expressed by the German delegation, although it shared the view of other delegations that the deletion of the exclusion would not imply any significant change in the legal position³².

It was decided, in view of the possibility of future EU legislation on this matter, not to delete the words “and programs for computers”. The one amendment to Article 52 that was adopted was the addition in paragraph 1 of the statement that European patents shall be granted “in all fields of technology”. The intention of this amendment was to enshrine ‘technology’ in the basic provision of substantive patent law, as well as aligning the article with Article 27(1) TRIPS.

4.3. TRIPS

The TRIPS agreement³³ is aimed at setting common standards and principles concerning the availability, scope and use of trade-related intellectual property rights, including patent rights. However, it may not be applied directly to the EPC because the European Patent Organisation itself is not a member of the WTO and is not a signatory of the agreement. Justification for its applicability to the EPC based on Article 30 of the Vienna Convention is questionable.

Article 27 TRIPS defines what constitutes patentable subject-matter. While paragraph 1 lays down the principle that patents shall be “available for any inventions, whether products or processes, **in all fields of technology**” (emphasis added), paragraphs 2 and 3 provide for a possibility to exclude certain subject-matter. However, there is no reference to an exclusion from patentability for programs for computers or similar. Computer programs are to be protected as literary works under the Berne Convention of 1971 (Article 10(1) TRIPS), however, this does not imply that such programs cannot also be patented.

Consequently, whether or not programs for computers are excluded from patentability under TRIPS depends on whether programs for computers are defined as inventions in a field of technology.

This uncertainty is reflected in the legal literature. Some scholars point out that, due to the wording of the provision, signatories of TRIPS are free to decide whether software-related inventions are patentable³⁴. Other scholars point out that programs for computers contain

³⁰ Basic proposal for the revision of the European Patent Convention, 13 October 2000, MR/2/00, p43, 3

³¹ MR/8/00, p2 ff.

³² MR/16/00

³³ Agreement on Trade-Related Aspects of Intellectual Property Rights (Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization)

³⁴ C.M. Correa/A.A. Yusuf, Intellectual Property and International Trade: The TRIPS Agreement, p199 f. and Neef, in Busche/Stoll, TRIPs, Art. 27 Rdn. 33-34, p447 f.

a technical element *per se* and therefore conclude that the list of non-patentable inventions comprised in Article 52(2) EPC is a violation of TRIPS³⁵.

As to the question whether some programs for computers can be considered to be inventions, or whether such programs for computers have technical character, one has to conclude that no guidance can be found in the TRIPS agreement.

4.4. EUROPEAN UNION

In 2002, the Commission of the European Communities proposed a directive to regulate the patentability of computer implemented inventions. According to Article 4 of the original proposal³⁶, member states should ensure that computer-implemented inventions are patentable, providing of course that they are susceptible of industrial application, are new and involve an inventive step. Article 4(2) states that a requirement of inventive step is the presence of a technical contribution, i.e. the contribution to the state of the art must have technical character.

According to a version of the directive proposed by the European Parliament in 2003³⁷, the term 'technical contribution' was equated with the term 'invention'. The use of natural forces to control physical effects beyond the digital representation of information was said to belong to a field of technology, whereas the processing, handling, and presentation of information did not, even where technical devices were employed for such purposes. The term 'field of technology' was defined as "an industrial application domain requiring the use of controllable forces of nature to achieve predictable results". These definitions use aspects of the terms used on occasion by the German courts to define what is patentable³⁸.

As widely known, the legislative initiative of the European Commission failed when on 6 July 2005 the European Parliament rejected the proposed common position and declared the legislative procedure closed³⁹.

From the documents relating to the drafting of the proposed directive it appears that the main differences between the positions of the European Council and the European Parliament lay in the delimitation of the definitions set out in the directive. While the proposal of the European Council contained rather broad definitions, the European Parliament introduced some amendments which narrowed the scope of protection offered through patents in the field of 'computer-implemented inventions', in particular in the area of interoperability and data processing. One of the amendments proposed by the European Parliament was the requirement that a patentable invention be in a 'field of technology', and defined this as 'requiring the use of controllable forces of nature to achieve predictable results in the physical world'⁴⁰.

³⁵ "TRIPS und das Patentierungsverbot von Software 'als Solche'", Daniele Schiuma, GRUR Int 1998, p852 f., 8

³⁶ "Proposal for a Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions", COM(2002) 92 final, 20 February 2002

³⁷ P5_TC1-COD(2002)0047 dated 26 March 2004 (OJ EU C 77 E, p230 ff., Article 2)

³⁸ For example German Bundesgerichtshof decisions X ZB 15/67 "Rote Taube", 27 March 1969 (GRUR 1969, 672 ff.) and X ZB 15/98 "Sprachanalyseeinrichtung", 11 May 2000 (GRUR Int 2000, 930 ff.)

³⁹ P6_TA(2005)0275 dated 6 July 2005 (OJ EU C 157 E, p265)

⁴⁰ Recommendation for Second Reading, A6-0207/2005 of 21 June 2005, amendments 17 and 19.

4.5. CONCLUSION

The principle of protection of certain computer-implemented inventions by patents is in line with the EPC and TRIPS, as well as with the various versions of the proposed EU directive.

As mentioned above, Article 52 EPC was extensively discussed in the different forums before and during the Diplomatic Conference leading to the adoption of EPC 2000. While the technical nature of inventions was emphasised by introducing the reference to “all fields of technology” in Article 52(1) EPC, paragraph 2 was not amended.

From the historical documents it appears that the authors of the EPC agreed that a computer program could only be patentable if it had technical character. This view is supported by the different comments given by delegates referring to the amendment of paragraph 1. However, this technical character, necessary to avoid the exclusion laid down in Article 52(2) EPC, was not defined.

Furthermore, the wording of Article 52(2) EPC provides no indication as to whether the exclusion of certain items is based on the fact that the items mentioned lack the necessary technical character or whether the exclusion is based on broader social or political considerations. The possibility that some excluded items are indeed technical is left open by the phrase “shall not be regarded as inventions”. Consequently, from the wording of Article 52(2) EPC, no conclusion can be drawn concerning the question of whether a computer program is technical or not.

In the absence of guidance from the law and its preparatory documents, and in view of the existence of divergences of opinion regarding how the computer program exclusion should be applied, it is considered appropriate at this stage to refer the questions set out in the previous section to the Enlarged Board of Appeal for its opinion.