

Interpretation of Article 52 of the European Patent Convention

in view of the question, to what extent software is patentable



Dr. Karl Friedrich Lenz, professor for German and European Law at Aoyama Gakuin University in Tokyo, investigates using the various universally accepted methods of law interpretation which meaning has to be attributed to the text of art 52 EPC today and reaches the conclusion that the Technical Boards of Appeal of the European Patent Office have for some time now regularly granted patents on programs for computers as such and are showing a disturbing willingness to substitute their own value judgements for those of the legislator.



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Editor's Remark:

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Preface

The author has a certain legal policy opinion on whether software patents make sense or not. But this view is not what this paper is about. Rather, the purpose is to investigate solely by means of the common methods or interpretation of laws what meaning has to be attached to the text which is in force today.

Moreover, also the existing caselaw will only be discussed shortly at the end. Our purpose is to determine the content of the Convention, not to explain court verdicts.

Wording of the Provisions

The wording is the starting point for any interpretation. Paragraph 2 says: programs for

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computers are not considered as inventions. Paragraph 3 limits Paragraph 2 in the sense that Paragraph 2 excludes patentability of the subject-matter or activities referred to in that provision only to the extent to which the patent relates to such subject-matter or activities as such.

This paragraph 3 particularly needs interpretation.

First of all: Paragraph 3 does not say forthright that only software is non-patentable as such. Rather it says that this applies to all the mentioned "subject-matter and activities". Software is among them, but it has to be noted that we are dealing with a general limitation for all of the mentioned cases, which is not limited to software. In paragraph 2 fifteen case groups are mentioned. It is however conceivable that the words "as such" might not apply to all case groups to the same extent.

A critical remark toward the writers of Article 52 should be allowed here. The limitation of all fifteen quite different case groups in paragraph 2 by a unified formula "as such" leads almost inevitably to situations, in which this formula does not apply very well to some of these case groups. This may have contributed to the difficulties that have occurred in the interpretation of the phrase "software as such". If the authors of the document had found a wording tailored and applicable to the field of software only, this would possibly have been much more easier to understand. In contrast, the existing universal fact of exclusion for all case groups has less chances to be understandable and usable for all of the case groups.

From the wording "shall exclude...only to the extent" it has moreover to be concluded that paragraph 3 is a partial limitation of paragraph 2. This cannot be reconciled with an interpretation that would unilaterally lead either to no limitation at all or to a total exclusion on one of the case groups in paragraph 3.

Now how we do have to understand software as such and, especially, what is the opposite of this term?

In preparation to this question we may first want to examine whether programs for computers are "subject-matter" or "activities" in the meaning of paragraph 3.

Programs are based on activities, but they are

no activities as such and thus a "subject-matter".

This subject-matter may be existend in different forms. First of all a program is composed in a language that can be understood by humans. This source text is then transformed in a computer-executable form. This source code is transformed in a executable form (object code). Both forms can be stored on a data carrier (such as a CD-Rom) or printed on paper. An executable version can additionally be executed.

It is not discernible that according to common language usage one of these different forms would be called "software as such", while for the others a different term would apply. If In order to argue to the contrary, one would have to affirm which term that would be and to which of those different forms it would apply.

A further possibility you could think of would be to differentiate the interaction of software with other subject-matters. According to that, software as such would be the domain in which software does not or not to a significant degree interact with other objects (subject-matters).

For example one might differentiate between software as such and software which is running on a computer. The computer would be the object with which software normally interacts, but it would be considered to be outside the scope of the software as such.

However this view is difficult to reconcile with the wording of paragraph 3. Because every piece of software is determined to run on a computer, this understanding excludes nothing at all and voids the exclusion in paragraph 2 of all meaning. However you draw the line: a totally one-sided observation contradicts the wording "only to the extent that ...".

The possibility is left to require a further effect outside the execution of software on a computer. If you agree upon this, immediately the question arises how far away from the computer this effect has to be. Is an effect on a device attached to a computer, e.g. a screen, sufficient? We cannot derive an answer from the wording. Therefore an understand of a program "as such" in this spirit does not appear very cogent either.

Thus by interpretation based on wording we do

not immediately get a clear picture. This has to be recorded as preliminary result of the wording-based interpretation. The only clear conclusion is that paragraph 3 is applicable to all case groups of paragraph 2 with the same wording and that the interpretation of this wording should have comparable effects on all case groups.

Systematic Interpretation

Systematic interpretation tries to determine the sense of a wording by the context, in which a special wording is used and by the overall concept of a law.

A first step with this method is to determine the meaning of the formula "as such" for other case groups mentioned in paragraph 2.

The first of three case groups found in paragraph 2 are discoveries. Excluded are only discoveries as such. Does this mean, that we have to split discoveries in two subsets "discoveries as such" and "discoveries"? I do not think it made sense. Rather all discoveries are not objects (subject-matter) of patentability. For all inventions this applies only to the discovery as such. It does not exclude an invention based on an discovery, because this invention is not the discovery but only uses this discovery.

If this understanding of the case group of discoveries is correct, this would mean for the case group of software that software is not be divided into subsets "software as such" and "other Software", but that each form of software is not patentable. Thus, the statement of limitation only means that other subject matters are patentable even if software is used in their development.

The second case groups mentioned in paragraph 2 are scientific theories. Also here I suppose it is impossible to single out a certain subset of "scientific theories as such" as opposed to another subset of "patentable scientific theories". The same applies to the third case group (mathematical methods). For all three case groups in number 1 of paragraph 2 the limitation formula "as such" quite clearly means that the object in question, be it a discovery, a scientific theory or a mathematical method, could be mentioned as means to an end of an invention in a patent application, but that nobody may monopolize any such object.

The antonym of "as such" in all three cases would be something like "other subject-matter that was invented with help of the mentioned subject-matter". In contrast to the case of software, the phrase "as such" is easily understood in these case groups.

The fourth case group are aesthetic creations (paragraph 2 item b). Here it is difficult to see what meaning could be attributed to the limitation "as such". For this case group too, one would not assume that one special subset of "aesthetic creations as such" exists and could be opposed to "patentable aesthetic creations".

The next 10 case groups are subsumed unter letter c of section 2. Software is included, as the last case group.

The first one from those ten case groups are plans for mental activities. Case groups two and three (rules and processes for mental activities) do not differ very much from the first case group and can be examined together. How is the meaning of the limitation "as such" to be understood here? As in the previously examined case groups, the limitation "as such" does not demand to split mental acts in two subsets: all mental acts are not patentable.

The next three case groups are plans, rules and processes for games. Of these the group of rules for games can be understood most easily. All games have rules. Whoever proposes a new rule or develops a new game, cannot attain patent protection therefor. The limitation to "rules as such" by 52(3) is in this case group is especially difficult to determine. It is impossible to derive precise criterion for the case of software. This applies even more to the case groups of "plans for games" and "processes for games", which are already by themselves difficult to understand.

Paragraph 2 regulates a few more case groups whose investigation we may omit, since they do not promise much further gain of knowledge. Therefore now I conclude as a result of a systematic interpretation: In important other case groups the subject matter is not to be split in two subsets ("as such" and "other"). Especially in the cases under letter (a), this understanding of the phrase "as such" is evident. It must therefore also be assumed to be applicable to the case of software.

Teleologic Interpretation

The method of teleological interpretation searches for the purpose (greek telos) of a law. Subsequently it chooses among several possible interpretations the one which is most conducive to putting this purpose into practice.

This requires that the limitation of the exclusion of the mentioned subject-matters and activities to the subject-matters and activities "as such" serves a purpose that can be directly recognised from the law.

Section 3 relates to fifteen quite different case groups. Therefore it is difficult to determine an evident purpose for paragraph 3 alone.

Thus a teleological interpretation of paragraph 3 does not lead to any discernible gain of knowledge.

Historical interpretation

A historical interpretation determines the meaning of a legal wording based on what the persons involved in legislation thought. Other than the methods used above it does not only use the legal text in question, but also other texts (such as drafts and discussion protocols). These sources are well documented in a recent book of Beresford^[1]. The examination that follows is based on his presentation.

From the legislation process we get that in early draft documents the universal exclusion "as such" in paragraph 3 was only applied to the subject-matters in letter (a) (discoveries, scientific theories, mathematical methods). For subject-matters mentioned in letter (c) the statement of limitation was "of purely abstract nature" (draft 1965) or "of a purely intellectual nature" (draft 1969). This explains the difficulties we face with the current wording. It does not surprise that the limitation "as such" is not to be understood very well, given that it was initially not intended to be applied to these.

A later draft of 1971 incorporates an exclusion of software patentability for the first time. This exclusion is not limited in any way. In that draft, the objects (subject matter) now mentioned in letter (c) are worded as follows: "schemes, rules or methods of doing business, performing purely mental acts or playing games". A limitation is only set for the case groups of

mental acts (purely). When interpreting the text, one does not have to answer the question what a method or a game as such might be.

At first the working group accepted the unconditional exclusion of software from patentability. Then, under the impression of statements from stakeholders, the current version was agreed upon, which only excludes software from patentability only "as such".

As result of the historical interpretation we can note: the understanding of the wording "as such" has to oriented towards the case groups mentioned in letter (a), because the phrase was originally applied to these and thus is best understood in their context. Therefore the result from above systematic interpretation gains special weight. Software is not to be separated into two subsets (software as such and other software), but software is universally excluded from patentability. However, this exclusion does not extend to inventions , which were developed with help software, just as the exclusion of discoveries and scientific theories does not extend to inventions which make use of discoveries or scientific theories.

Constitutional Interpretation

The method of constitutional interpretation asks about the constitutional effects of different results and selects the result which is most closely in line with the values of the constitution. Here especially basic rights are to be considered.

For legal practise the most important basic right in the German constitution is the principle of equality in Article 3.1 of the Basic Law (GG).

The rule of equality forbids to treat generally equal matters differently without a practical reason.

From those 15 case groups mentioned in paragraph 2 software and aesthetic creations are equal to the extent that they are already protected by copyright law. This is not the case for the other subject-matters and activities. Therefore an interpretation according to Article 3.1 GG has to take care that the interpretation of software does not unreasonably diverge from the interpretation of aesthetic creations. Vice versa a factual cause has to be specified if you assume that software, in contrast to all the other subject matters of inventions have to be

double-protected by patent law and copyright. Given that patents for aesthetic creations (e.g. criminal stories and movies) are hardly ever granted, the equality perspective therefore reinforces a narrow understanding of the limiting effect of paragraph 3 with regard to software.

Further a constitutional interpretation would consider Article 103(2) GG, which stipulates that an act may only be sanctioned when the criminal action was determined by law. This forbids the extension of criminal sanctions by case law or common use. It is relevant in this context because paragraph 142 of the German Patent Act (PatG) includes criminal sanctions for patent infringement. This means the each patent grant can result in the imposition of criminal sanctions as specified there. However these sanctions can only be admissible to the extent that the exclusions in the German equivalent of Art 52(2) EPC do not apply. A grant of a patent based on interpretations which are not reconcilable with the wording of the law would violate the principle of lawfulness. The constitutional interpretation has to hold the wording of law in high esteem. An interpretation which completely rebuilds this wording to suit the taste of a court is not only unlawful but also unconstitutional.

Finally probably Art. 14 of the basic law plays a role here because it contains a institutional guarantee of property. Provision 1 protects property, but content and limits have to be determined by the lawmaker. This would probably stand in the way of a total ex-post abolishment of the patent system (unlike an abolishment which disabled new patent applications beginning from a certain date). The question of interpretation of Art 52 EPC regarding the patentability of software is not about such a radical cut. If the working group from 1971 excluded software without any limitations from patentability, Art 14 GG did not stand in the way of this at all. And when today the interpretation leads to the result, that software to a large extent is excluded from patentability, it will not mean a unconstitutional interception in the property of inventors under German Constitutional law. This is further affirmed by the fact that software is already protected by copyright and thus an exclusion of patentability does not lead to an exclusion of all economic exploitability.

Intermediate Result

The literal interpretation already forbids any interpretation that would have the effect that no software is excluded from patentability, since this is incompatible with the term "only to the extent".

The systematic interpretation, corroborated by the historical interpretation, that software is not to be split in to subsets (software "as such" and other software), but that, as in the case of discoveries and scientific theories, all software is excluded from patentability but inventions developed with help of software are patentable.

The constitutional interpretation forbids an unequal treatment in comparison to esthetic creations without further justification and an extension of patentability beyond the limits of the literal interpretation by caselaw development.

Discussion of the practise of the European Patent Office

The practise of the European Patent Office currently follows the decision of the Technical Board of Appeal 3.5.1 of 1st of Juli 1998, labelled "Computer Program Product / IBM"^[2].

On page 12 the Technical Board of Appeal opines that computer programs are to be divided in the two subsets "software as such" and "other software". This opinion can not be reconciled with the results derived above by a systematic interpretation. The Board does not explain its reasoning but merely derives it from a superficial overview of paragraphs 2 and 3. A use of the common methods of legal interpretation as outlined above is not found in this decision.

On the next page the Board asserts that the limitation "as such" has to be understood in the sense that computer programs as such are only computer programs without a technical character.

This is as far removed from the wording, that a litigation based on a patent granted under this unlawful interpretation stands opposed to the pinciple of lawfulness (Art. 104.2 GG). It is a total redefinition if the limitation in paragraph 3 that had nothing in common with the meaning

of the law. The Technical board of Appeal clearly transgresses the boundaries of judicial competence. Whoever wants to replace the wording "as such" by "without a technical character" has to do it by a change of the Convention according to the required legislative procedures. Jurisdiction cannot do this.

In autumn 200 the intergovernmental Conference had decided to enter a requirement of a technical character in paragraph 1 of Art 52. Paragraph 1 will be worded like this: "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." This time the requirement "in all fields of technology" was not newly added to paragraph 3 in place of the existing limitation "as such", as EPO caselaw had done for software, in transgression of its competence. According to the new text the technical character can only be seen as an decisive criterion when you share the view that this examination shall be applied two times, first according to paragraph 1 then additionally according to paragraph 3. For systematic reasons it makes little sense."

Also a short systematic examination shows why the opinion of the technical board of appeal was questionable from the start. To be consistent, it would have to lead to a division of the field of discoveries and scientific theories into two subsets each, one "with technical character" and "without technical character", and to open a part of science for patent monopolisation.

The subsequent deliberations of the Technical board of Appeal relate to the question of how the field of software should be split in two subsets of according to the criteria of "technical character" developed by the Board in violation of the wording and systematics. These deliberations result in a total and unlimited recognition of patentability of software. The subset "software as such" in the concept of the Technical Board of Appeal in of an extremely limited scope. This once more is incompatible with the literal meaning of the wording "only to the extent" in paragraph 3.

Finally the attempt of teleological interpretation, on which the Technical Board of Appeal embarks on page 21, is very telling. There they

say: "In particular, the object and purpose of the EPC is the grant of patents for inventions and thus to promote technical progress by giving proper protection to these inventions. With this in mind, the Board has arrived at its interpretation in the light of developments in information technology. This technology tends to penetrate most branches of society and leads to very valuable inventions."

This is in opposition to the negative result about a teleological interpretation above. This is about the interpretation of paragraph 3 of the European Patent Convention. The purpose of the various exclusions from patentability is, as concluded above, difficult to recognise from the text. However the assertion that the limitation of the exclusion of software from patentability to software as such in paragraph 3 served the purpose of supporting progress in the light of the development of information technology, is not convincing. If the lawmaker had intended such a purpose, he would not have introduced the exclusion in paragraph 2 in the first place. The assumption of a legal purpose that equals the wanted legislative result is no correct use of the method of teleological interpretation, but it is clearly the willingness of the the Technical Boards of Appeal to substitute its own opinions for those of the lawmaker.

Further Reading (Editor's Recommendations)



[Lenz Blog](#)



[Juristische Stellungnahmen von Prof. Dr. iur Karl-Friedrich Lenz](#)



[Kflenz-horns0309](#)



[Lenz 2002-03-01: Grenzen der Patentierbarkeit](#)


German book by Dr. Karl-Friedrich Lenz, professor (kyôju) of European Law, which explains many aspects of the current debate on patentability, mostly in German, and also contains some english texts, including a chapter on the CEC/BSA directive proposal of 2002-02-20.




[Lenz 2002-03-01: Sinking the Software Patent Proposal](#)

Karl-Friedrich Lenz, professor of European


Law, lists some legal and constitutional arguments to explain why the CEC/BSA proposal is a legal and political scandal, starting from the fact that the European Commission is using "harmonisation" and "clarification" merely as pretexts to declare itself competent for promoting an unspeakable political agenda which does not fall in the Commission's competence.

 **Mellullis 2002: Zur Sonderrechtsfähigkeit von Computerprogrammen**

This article by the presiding judge of Germany's highest patent senate approvingly quotes the text and arguments of Prof. Lenz.

 **Art 52 EPC: Interpretation and Revision**

The limits of what is patentable which were laid down in the European Patent Convention of 1973 have been eroded over the years. Influential patent courts have interpreted Art 52 in a way that renders it obscure and meaningless. Not all courts have followed this interpretation, and numerous law scholars have shown why it is not permissible. The EPO had accepted the inconsistencies in anticipation of an expected change of law. However this expectation was frustrated in 2000 by the governments and in 2003 by the European Parliament. The Parliament voted for a clarification which gives Art 52 back its meaning. Meanwhile, proponents from all sides have proposed to modify Art 52(3) EPC in one or the other way, of course while claiming that this merely serves to "clarify the status quo" or to implement a directive which serves this purpose, and, since the European Commission and the Council have not signalled support for the Parliament's approach, there is still no common understanding of which "status quo" we are talking about.

 **Patent Jurisprudence on a Slippery Slope -- the price for dismantling the concept of technical invention**

So far computer programs and other *rules of organisation and calculation* are not *patentable inventions* according to European law. This doesn't mean that a patentable manufacturing process may not be controlled by software. However the European Patent Office and some national courts have gradually blurred the formerly sharp boundary between material and immaterial innovation, thus risking to break the whole

system and plunge it into a quagmire of arbitrariness, legal insecurity and dysfunctionality. This article offers an introduction and an overview of relevant research literature.



Software Patents vs Parliamentary Democracy

We explain the state of play regarding state-granted idea monopolies, specially in the context of the draft directive "on the patentability of computer-implemented inventions" (software patent directive), which has become a test case on the extent to which parliaments have a say in contemporary European legislation.

[EU Patent | Analysis | EPC 52 | Film | Exegesis | Moses | Stalin | Udgör]



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