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52(2) EPC – The patentability of computer-
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Dispute over the Meaning of “Invention” in Article 52(2) EPC – The patentability of computer-implemented inventions in Europe[†]

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1. Introduction

In 2002, the European Economic and Social Committee (“ESC”) described the doctrinal premise of the European Patent Office’s interpretation of article 52(2) of the *European Patent Convention*¹ as “the product of legal casuistry”.² The purpose of the current article is to consider that description, and ask whether it’s fair, or whether the EPO’s approach to article 52 is better ascribed to problems inherent in the EPC itself.

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¹ *Convention on the Grant of European Patents*, opened for signature 5 October 1973, 13 ILM 268 (entered into force 7 October 1977) (“EPC”).

² *Opinion of the Economic and Social Committee on the Proposal for a Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions* (“ESC Opinion”), COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.1].

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Three issues are addressed to that end. The first is the object of the ESC’s criticism: article 52(2) and its interpretation by the EPO’s Boards of Appeal. The second is the context and substance of the criticism itself: the European Commission’s *Proposal for a Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions*,³ and the scathing response it attracted from the ESC. And the third is the question of the criticism’s validity: can the EPO’s approach to article 52(2) be defended against the charge of casuistic reasoning, and if it can, does it follow that the approach is satisfactory?

2. *The Object of the ESC’s Criticism: Article 52(2), and its Interpretation
by the EPO’s Technical Boards of Appeal*

By article 52(1) of the EPC, a valid patent may only be granted for an invention that is novel, inventive and susceptible of industrial application.⁴ By article 52(2), the term “invention” is defined negatively, as excluding several categories of subject matter including, by paragraph (c), “schemes, rules and methods ... for doing business, and programs for computers”.⁵ This definition is then clarified, in article 52(3), as only precluding patentability for the relevant subject matter as such;⁶ the so-called “as such proviso”.

3 (“Commission Proposal”), COM(2002) 92 final (20 February 2002).

4 EPC article 52(1): “European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step.”

5 EPC article 52(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.”

6 EPC article 52(3): “The provisions of paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the

(i) The first era of decision-making: Christian Franceries to IBM/ CRI

The EPO's interpretation of the definition of invention has a short but infamously difficult history.⁷ It begins with the Boards' six earliest decisions involving article 52(2), which date from the 1980s — *CHRISTIAN FRANCERIES/Traffic Regulation*,⁸ *STOCKBURGER/Coded Distinctive Mark*,⁹ *VICOM/Computer-Related Invention*,¹⁰ *KOCH & STERZEL/X-Ray Apparatus (Opp by Siemens & Phillips)*,¹¹

extent to which a European patent application or European patent relates to such subject-matter or activities *as such*" (emphasis added).

⁷ The difficult nature of the history of EPO jurisprudence is implicit in the uncertainty regarding the principles it supports, which has been widely acknowledged by academics, governments, and even judges. In the context of UK law see, eg, *Gale's Application* [1991] RPC 317, 328 (CA) (Nicholls LJ) (referring to the decisions in T115/85 (*IBM/Computer-Related Invention*) [1990] EPOR 107 and T6/83 (*IBM/Data Processor Network*) [1990] EPOR 91, and stating: "I confess to having difficulty in identifying clearly the boundary line between what is and what is not a technical problem for this purpose. That, at least to some extent, may well be no more than a reflection of my lack of expertise in this technical field."); *Hitachi Ltd's Application* [1991] RPC 415, 422 (Patent Office) (describing the identification of an "invention" as a matter of expert tuition); United Kingdom Patent Office, *Should Patents be Granted for Computer Software or Ways of Doing Business? The Government's Conclusions* (March 2001) (available at <http://www.patent.gov.uk/about/consultations/conclusions.htm>) [20] (last visited 7 July 2004) (agreeing with public statements that the law regarding the availability of patents for computer programs is unclear, and undertaking "as a matter of urgency" to "take this matter up with its partners in the European Union and the European Patent Convention"). See further below.

⁸ T16/83 (*CHRISTIAN FRANCERIES/Traffic Regulation*) ("Christian Franceries") [1988] EPOR 65.

⁹ T51/84 (*STOCKBURGER/Coded Distinctive Mark*) ("Stockburger") [1986] EPOR 229.

¹⁰ T208/84 (*VICOM/Computer-Related Invention*) ("Vicom") [1987] EPOR 74.

¹¹ T26/86 (*KOCH & STERZEL/X-Ray Apparatus (Opp by Siemens & Phillips)* ("Koch") [1988] EPOR 72.

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STERNHEIMER/Harmonic Vibrations,¹² and *IBM/Computer-Related Invention*.¹³ These decisions set the scene for all future developments in this area, by confirming the nature of article 52(2) as a definitional provision that resolves to a single requirement for technical character,¹⁴ and by revealing, through their divergent understandings of “technical character”, three principal issues of uncertainty regarding the scope of that definition.

The first of those issues is whether the requirement for technical character is one of substance or form. In particular, is it enough that a subject matter use technical means or be described in technical terminology, as the reasoning in *Stockburger*, *IBM/CRI* and *Sternheimer* would seem to imply,¹⁵ or is something more substantive required, such as a claim to have made a technical advance, as suggested by the reasoning in *Christian Franceries*, *Koch* and *Vicom*?¹⁶

Second, what if any relationship exists between the concept of technical character on one hand and the requirements of novelty, inventiveness and industrial applicability on the other? In *Christian Franceries* and *Vicom* the requirement for an invention was construed as overlapping with industrial applicability.¹⁷ In *Sternheimer* and *IBM/CRI*, in contrast, it was regarded as a discrete and threshold matter to be resolved before the other patentability criteria.¹⁸ Different again was the approach in *Koch*, where the Board’s

12 T366/87 (*STERNHEIMER/Harmonic Vibrations*) (“*Sternheimer*”) [1989] EPOR 131.

13 T115/85 (*IBM/Computer-Related Invention*) (“*IBM/CRI*”) [1990] EPOR 107.

14 Cf *Christian Franceries* [1988] EPOR 65, [8], [10] (interpreting article 52(2) as requiring a subject matter that does not implement or comprise an abstract activity or other item excluded by article 52(2)).

15 See *Stockburger* [1986] EPOR 229, [3]; *IBM/CRI* [1990] EPOR 107, [9], [11]; *Sternheimer* [1989] EPOR 131, [4].

16 See *Christian Franceries* [1988] EPOR 65, [5], [11]; *Koch* [1988] EPOR 72, [3.4]; *Vicom* [1987] EPOR 74, [16].

17 See *Christian Franceries* [1988] EPOR 65, [10]; *Vicom* [1987] EPOR 74, [3], [6], [7].

18 See *IBM/CRI* [1990] EPOR 107, [5], [9], [13]; *Sternheimer* [1989] EPOR 131, [4.1], [4.3].

acceptance of inventions as technical teaching implied a view of article 52(2) as importing considerations of novelty and inventiveness.¹⁹

And finally, must a subject matter, to be technical, involve the production of a material or physical object? Whilst *Vicom* suggests that it must,²⁰ *Stockburger*, *IBM/CRI* and *Sternheimer* take a more liberal view focused on solving technical problems (in *IBM/CRI*),²¹ and using technical means (in *Stockburger* and *Sternheimer*),²² without any additional requirement for a new product per se.

(ii) The second era of decision-making: 1988-1999

The uncertainty surrounding each of these issues came to the fore during the second period of decision-making involving article 52(2), beginning in 1988, when individual Boards were called on by parties to explain the significance of the technical character theory of article 52(2) in the specific context of computer-implemented methods.

During this period two competing theories of technical character crystallized. The first is a refined version of the theory of article 52(2) identified by Sherman in the early 1990s as the “whole contents approach”,²³ and requires only that a subject matter, when

¹⁹ See *Koch* [1988] EPOR 72, [3.4].

²⁰ See *Vicom* [1987] EPOR 74, [5].

²¹ See *IBM/CRI* [1990] EPOR 107, [9].

²² See *Stockburger* [1986] EPOR 229, [3]; *Sternheimer* [1989] EPOR 131, [4].

²³ See Brad Sherman, “The Patentability of Computer-Related Inventions in the United Kingdom and the European Patent Office” [1991] *European Intellectual Property Review* 85, 85 (citing the decisions of the EPO in *Vicom* [1987] EPOR 74 and *Koch* [1988] EPOR 72 as reflecting a “whole contents approach” to article 52(2), defined expansively to encompass any approach to article 52(2) involving an examination of “the claims as a whole” as distinct from their “novel or non-excluded elements”). See also Jonathan Newman, “The Patentability of Computer-Related Inventions in Europe” [1997] *European Intellectual Property Review* 701, 702 (distinguishing between Sherman’s whole contents approach and a “pure whole contents approach”, described as “looking at the alleged invention as a whole and assessing whether the whole involves more than excluded matter”).

considered as a whole, use technical means to solve a technical problem or produce a technical effect. The second, most naturally described as the “contribution approach”, sets a more onerous standard by requiring a non-conventional result in a field of activity not excluded by article 52(2).²⁴ The contribution theory amounts to a kind of *prima facie* inventiveness, and was applied during the 1990s to support the denial of patents for computer systems that: (a) depended for their novelty or inventiveness on a non-technical or conventional source, such as the instructional content or conventional operation of a program,²⁵ the meaning of data,²⁶ or the intellectual input of a computer programmer;²⁷ and/or (b) produced a result in a field covered by article 52(2), such as linguistics, mental processing or computer programming.²⁸ The result of the whole contents theory, in contrast, was the allowance of patents during the same period for individual systems in spite of or without regard to their fulfilment of

²⁴ Compare the “point of novelty approach” identified by Sherman in the decision of Falconer J in *Merrill Lynch Inc’s Application* [1988] RPC 1 and certain US cases, as consisting of “the idea that, when the court is determining whether an invention falls within one of the excluded categories, only the novel or inventive elements of the invention are to be examined”. See Sherman, above 23, 85. See also Newman, above n 23, 702.

²⁵ See, eg, T22/85 (*IBM/Document Abstracting and Retrieving*) (“IBM/DA&R”) [1990] EPOR 98; T38/86 (*IBM/Text Clarity Processing*) (“IBM/TCP”) [1990] EPOR 606; T158/88 (*SIEMANS/Character Form*) (“siemens”) [1992] EPOR 69; T833/91 (*IBM/External Interface Simulation*) (“IBM/EIS”) [1998] EPOR 431; T204/93 (*AT&T/Computer System*) (“AT&T”) [2001] EPOR 300. For a description of these cases see Appendix.

²⁶ See, eg, T52/85 (*IBM/Semantically-Related Expressions*) (“IBM/SRE”) [1989] EPOR 454; T65/86 (*IBM/Homophone Checker*) (“IBM/HC”) [1990] EPOR 181. For a description of these cases see Appendix.

²⁷ See, eg, *IBM/DA&R* [1990] EPOR 98; *IBM/TCP* [1990] EPOR 606. For a description of these cases see Appendix.

²⁸ See, eg, *IBM/SRE* [1989] EPOR 454; *Siemens* [1992] EPOR 69; *AT&T* [2001] EPOR 300; *IBM/HC* [1990] EPOR 181. For a description of these cases see Appendix.

these same conditions.²⁹ Hence the existence from 1988 to 1999 of a series of cases that are difficult to reconcile, if not always in reasoning then at least in conclusion.³⁰ In addition, far from conceding the

²⁹ See, eg, T42/87 (*KEARNEY/Computer-Related Invention*) (“*Kearney*”) [1997] EPOR 236 (reasoning analogously from *IBM/CRI* [1990] EPOR 107 to support the patenting of a method for communicating messages relating to the operation of a tool to its human operator); T164/92 (*BOSCH/Electronic Computer Components*) (“*Bosch*”) [1995] EPOR 585 (finding a system for monitoring computer components to be inherently patentable on the basis of its technical effect in reducing the computer’s operating speed); T59/93 (*IBM/Rotating Displayed Objects*) (“*IBM/RDO*”) (Unreported, Technical Board of Appeal, 20 April 1994) (adopting a formalistic view of article 52(2) to support the patenting of a method of rotating digital objects, on the basis of its effect in enabling the programmer to perform a more accurate rotation); T6/83 (*IBM/Data Processor Network*) (“*IBM/DPN*”) [1990] EPOR 91 (applying the language of the contribution theory to support the patenting of a technically conventional system for networking data processors by means of a computer program); T110/90 (*IBM/Editable Document Form*) (“*IBM/EDF*”) [1995] EPOR 185 (applying the language of the contribution theory to support the patenting of a system for converting documents from one word processing system to another on the basis of the system’s dependence on the technical features of the word processing systems and inability to be performed exclusively by mental means); T236/91 (*TEXAS INSTRUMENTS/Language Understanding System*) (“*Texas Instruments*”) [2000] EPOR 156 (finding a system for helping computer operators input words by selecting and entering words and phrases from menus generated and presented by the computer according to the operator’s input to be inherently patentable, on the basis of its use of various technical features, including pre-defined menus and the inputting of commands to trigger their execution); T769/92 (*SOHEI/General-Purpose Management System*) (“*Sohei*”) [1996] EPO 253 (finding a system for management models to be inherently patentable on the basis of its dependence for implementation on the operator’s technical judgment in making certain preliminary decisions beyond those involved in conventional acts of programming).

³⁰ Compare, eg, *IBM/EDF* [1995] EPOR 185 (see above n 29) with *IBM/DA&R* [1990] EPOR 98, *IBM/TCP* [1990] EPOR 606 and *AT&T* [2001] EPOR 300 (see Appendix); *Texas Instruments* [2000] EPOR 156 (see above n 29) with *IBM/DA&R* [1990] EPOR 98, *IBM/TCP* [1990] EPOR 606 and *IBM/SRE* [1989]

divergence of authority thus created, the Boards of Appeal routinely obscured it by a mix of generic terminology and passing reference to prior decisions in a manner that suggested a single line of practice consistent in principle and correct in fact.³¹ The effect was to exacerbate the uncertainties of the early decisions by masking them and perpetuating them in a new line of cases. More importantly for present purposes, it was to produce two contradictory lines of cases suggesting, respectively, that programmed, general-purpose computer systems do, and do not, possess the technical character required to avoid exclusion under article 52(2).³²

(iii) The current era of decision-making: Post-1999

Since 1999, much of the uncertainty created during the decade theretofore has been resolved. This follows the Boards’ entrenchment of the whole contents theory of technical character as the approach required by the literal terms of the EPC — including particularly the as such proviso of article 52(3) — when construed in the light of extraneous legal and political factors. Those factors include the obligation of European States under article 27(1) of TRIPS³³ to make

EPOR 454 (see Appendix); *Kearney* [1997] EPOR 236 (see above n 29) with *IBM/DC* (Unreported, Technical Board of Appeal, 23 October 1992) (see Appendix); *Sohei* [1996] EPO 253 (see above n 29) with *IBM/EIS* [1998] EPOR 431, *IBM/DC* (Unreported, Technical Board of Appeal, 23 October 1992) and *IBM/EBC* (Unreported, Technical Board of Appeal, 29 October 1993) (see Appendix); *IBM/RDO* (Unreported, Technical Board of Appeal, 20 April 1994) (finding that an automated method is by definition not a method for performing a mental act within the meaning of article 52(2)(c); see further above n 29) with *IBM/HC* [1990] EPOR 181, *IBM/DA&R* [1990] EPOR 98, *IBM/TCP* [1990] EPOR 606 and *IBM/SRD* (Unreported, Technical Board of Appeal, 5 December 1989) (see Appendix).

³¹ See above n 29.

³² See above n 30.

³³ *Agreement on Trade-Related Aspects of Intellectual Property Rights*, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, *Legal Instruments – Results of the Uruguay Round*, vol 31, 33 ILM 81 (1994) (“TRIPS”).

patents available for inventions in all fields of technology,³⁴ and the liberal patent granting practices of Europe's major trading partners, the US and Japan, both of which have been treated by the EPO as indicative of current jurisprudential trends, the EPO's observance of which will "contribute to the ... highly desirable (worldwide) harmonization of patent law".³⁵ Applying this approach, the Board in *IBM/Computer Programs* held patents to be permissible for any computer program that either comprises a necessary means of obtaining a technical effect, or manages an industrial or mechanical process — including, if the Board's earlier decision in *PETTERSON/Queuing System*³⁶ is to be accepted, any business or other method of use in a service industry³⁷ — on the ground that such a program has technical character, and is therefore not a computer program as such in the sense of article 52(2)(c).³⁸ A stark demonstration of the effects of the whole contents theory was given in the more recent decision of *PBS PARTNERSHIP/Controlling Pension Benefits System*.³⁹ There the Board held patents to be

³⁴ See TRIPS article 27(1): "Subject to the provisions of paragraphs 2 and 3, patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. Subject to [certain provisions], patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced."

³⁵ T935/97 (*IBM/Computer Programs*) [1999] EPOR 301, [2.3], [2.6]. See also T1173/97 (*IBM/Computer Programs*) [2000] EPOR 219 (mirroring the reasons of T935/97).

³⁶ T1002/92 (*PETTERSON/Queuing System*) [1996] EPOR 1 (applying the whole contents approach to allow a patent for a system for determining the queue sequence of customers, as a technical apparatus in the form of a 3-d object having specific functional capacities and practical application in the service of customers).

³⁷ See T1002/92 (*PETTERSON/Queuing System*) [1996] EPOR 1, [2.1].

³⁸ See T935/97 (*IBM/Computer Programs*) [1999] EPOR 301, [6].

³⁹ T931/95 (*PBS PARTNERSHIP/Controlling Pension Benefits System*) ("*PBS Partnership*") [2002] EPOR 52 (involving an actuarial method for controlling

permissible for any method — including a business method — when implemented by a computer or other hardware apparatus, and described in the patent documentation in terms of that implementation.⁴⁰ The reason? According to the Board, such a “method” is a man-made technical apparatus having a utilitarian purpose, and not a method at all, and for that reason avoids exclusion under article 52(2).⁴¹ This reasoning resolves the three ambiguities identified above,⁴² by showing the requirement for an invention to be — despite the Board’s implicit protestation to the contrary⁴³ — a requirement entirely of form, that exists independent of the requirement of inventiveness, and that does not depend on the production of any material or physical object.

3. *The Context and Substance of the ESC’s Criticism*

The context for the ESC’s criticism of the whole contents approach was the Commission Proposal of 2002,⁴⁴ drafted with a view to resolving the legal uncertainty within Europe regarding software patenting.⁴⁵ Seeking in part to codify the principles of EPO

a pension benefits program, claimed as the method and the programmed general-purpose computer by which it was implemented).

⁴⁰ See *PBS Partnership* [2002] EPOR 52, [5].

⁴¹ See *PBS Partnership* [2002] EPOR 52, [5].

⁴² See text accompanying ns 15-22.

⁴³ See *PBS Partnership* [2002] EPOR 52, [3] (rejecting formalistic interpretations of the requirement for an invention).

⁴⁴ See Commission Proposal, COM(2002) 92 final (20 February 2002).

⁴⁵ See Commission Proposal, COM(2002) 92 final (20 February 2002) recitals (2), (3), (5) and (16). The Commission Proposal followed the Commission’s earlier identification of software patenting as an issue requiring urgent action at a Community level because of the alleged harm being caused to the Internal Market as a result of divergences in Member States’ applications of article 52(2). (See *Promoting innovation through patents – The follow-up to the Green Paper on the Community patent and the patent system in Europe* (“*The follow-up to the Green Paper*”), COM(1999) 42 final (3 February 1999) 2, 12.) The “action” envisaged by the Commission was two-fold: first,

jurisprudence reflected in *PBS Partnership*,⁴⁶ the Proposal required that Member States: (a) ensure the *prima facie* availability of patents for any subject matter involving the use of a computer, computer network or other programmable apparatus as a “computer-implemented invention” (articles 4(1), 2(a)); (b) require, as a condition of inventiveness, that such “inventions” make a non-obvious contribution to a technical field (articles 4(2), 2(b)); and (c) define “technical field” to include computer programming (articles 4(2), 3). The result was a text that used the language of the contribution theory of article 52(2) to achieve the result of the whole contents theory, and thereby give the principles of post-1999 EPO case law the imprimatur of European Union (“EU”) legislation.

Seven months later, the ESC published its Opinion on the Commission Proposal, in terms that were scathing. It described the Proposal as a partisan document,⁴⁷ that lacked a sound economic basis, showed insufficient regard for public interest and democracy,⁴⁸ and put Europe at risk of increased legal uncertainty, and perhaps

a Community directive ensuring the availability of software patents, properly claimed, in line with US and Japanese law; and second, amendment of article 52(2), by the EPC Contracting States, to remove the computer programs exclusion of paragraph (c). (See *The follow-up to the Green Paper*, COM(1999) 42 final (3 February 1999) 13–4.) The second of these actions was considered at the 2000 Revision of the EPC, but rejected. (See Administrative Council, *Basic Proposal for the Revision of the European Patent Convention*, EPO Doc MR/2/00 (2000) 43, 43[3]–[4] (describing the proposal as formal rather than substantive: “The EPO and the Boards of Appeal have always interpreted and applied the EPC in such a way that this exception in no way excludes appropriate protection for software-related inventions, ie inventions whose subject-matter consists of or includes a computer program. ... Nevertheless, the point must be made that patent protection is reserved for creations in the technical field.”).) The first action was attempted by the Commission through its Proposal above.

⁴⁶ Commission Proposal, COM(2002) 92 final (20 February 2002) 14.

⁴⁷ ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.12].

⁴⁸ ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.12].

even “legal chaos”.⁴⁹ The provisions from which these ills were said to derive were more specifically criticized as offering a “a de facto acceptance and justification of the *a posteriori* drift of EPO jurisprudence”,⁵⁰ and opening the way to the abolition of article 52(2) by envisaging the patenting of all methods implemented through software programs or on electronic networks, including the Internet.⁵¹ According to the ESC, the doctrinal premise of the Commission Proposal — the EPO distinction between “computer software by itself” and “software producing technical results” — was “indefinable”, and “the product of legal casuistry”.⁵²

In September 2004, the ESC was vindicated in these criticisms by the European Parliament’s vote to amend the Proposal to reflect its comments.⁵³ Whilst retaining the Proposal’s basic structure, the Parliament’s Draft effected the following three important changes. First, it required that the necessary technical contribution arise from something other than the digital representation, production, handling, processing, distribution or presentation of information (article 2(b)). Second, it required that Member States exclude data processing from their definitions of “field of technology”, and that innovations in the field of data processing not be regarded as inventions for patent law purposes (article 3). And third, it expressly precluded patent protection for any computer-implemented business or other method that failed to produce any technical effect beyond

⁴⁹ ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.16], [3.13].

⁵⁰ ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.1.1].

⁵¹ ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.1.2].

⁵² ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [3.1].

⁵³ *Position of the European Parliament adopted at first reading on 24 September 2003 with a view to the adoption of Directive 2003/.../EC of the European Parliament and of the Council on the patentability of computer-implemented inventions (“Parliament’s Draft”), Parliament Doc Number A5-0238/2003, 2002/0047(COD) (24 September 2003).*

the usual physical interactions of a program and its implementing hardware (article 5), or the improvement in the efficiency of a data processing system's use of resources (article 6).

As a result of these changes, the Parliament's Draft went against the trend of contemporary EPO authority by supporting a theory of technical character consistent with the contribution theory, thereby precluding the patentability of even inventive uses of a technically conventional apparatus to implement a method otherwise excluded by article 52(2).⁵⁴

In May 2004, however, that Draft was rejected, and the Commission's original version largely reinstated following the EU Council's agreement to a common position proposal⁵⁵ that incorporated that version's central provisions.⁵⁶ In September the Council Proposal will return to the Parliament under the EC Treaty's codecision procedure,⁵⁷ where it will either be: (a) rejected in toto, thereby ending the legislative process; (b) subjected to further amendments, requiring retransmission to the Commission for further consideration; or (c) approved in toto, paving the way for its adoption as a Directive under article 95.⁵⁸ In this context, the validity

⁵⁴ See above text accompanying ns 25-28.

⁵⁵ *Proposal for a Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions — Political agreement on the Council's common position ("Council Proposal")*, Council Doc Number 9713/04, 2002/0047(COD) (24 May 2004).

⁵⁶ The only significant amendment of the Parliament retained by the Council in its common position Proposal is that contained in article 5 of the Parliament's Draft; namely, that patent protection should not be available for computer-implemented business and other methods that fail to produce any technical effect beyond the usual physical interactions of a program and its implementing hardware. See Council Proposal, Council Doc Number 9713/04, 2002/0047(COD) (24 May 2004) article 4a(2).

⁵⁷ *Treaty Establishing the European Community ("EC Treaty")*, OJ C 325 (24 December 2002) article 251.

⁵⁸ If adopted the Council Proposal will have the same legal basis as the *Common Proposal of the European Parliament and the Council of Ministers for a Directive on the Legal Protection of Biotechnological Inventions*, Doc COM (88) 196 final — SYN 159, 17 October 1988, OJ No C (13 January 1989), on which

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of the ESC’s criticisms of the substantive content of the Commission (and now Council) Proposal becomes an issue of central importance.

4. *The ESC’s Criticism: Is it Valid?*

(i) In defence of the whole contents theory

Is the ESC’s criticism valid, or is there something more to the EPO’s whole contents approach than legal casuistry? PBS Partnership is more than sufficient to rebut any suggestion of hyperbole in the ESC’s charge. However, it is still possible to defend the EPO’s approach, for whilst it is true that the approach lacks doctrinal integrity, so does article 52 itself, and whatever the approach’s doctrinal shortcomings, it at least has some political integrity in the sense of reflecting the policy objectives that informed article 52(2)’s original formulation.

The first of these defences depends on the as such proviso on which the whole contents theory of technical character has turned. As the EPC’s preparatory materials show, that proviso originally applied solely to scientific discoveries, and was only extended, at the 11th hour of the framers’ negotiations, so that its limited application would not be misconstrued by future decision makers as implying that the article 52(2) categories to which it did not apply were intended for broad construction.⁵⁹ The effect of that extension, however, was to overcorrect the framers’ interpretive dilemma by

see Case 377/98, *Pays-Bas v Parliament and Council* (ECJ 10 September 2001) (available at <http://www.curia.eu.int/jurisp/cgi-bin/form.pl?lang=en&Submit=Submit&docrequire=alldocs&numaff=C-377%2F98&datefs=&datefe=&nomusuel=&domaine=&mots=&resmax=100>) (last visited 7 July 2004).

⁵⁹ See Munich Conference, *Minutes of the Proceedings of Main Committee I*, Council of Europe Doc M/PR/1 (1973) [42]; Munich Diplomatic Conference, *Comments by the Government of the Federal Republic of Germany*, Council of Europe Doc M/11 (1973) [21].

turning a text they regarded as vulnerable to unduly broad interpretation into a text destined for unduly narrow interpretation. The current EPO approach more than fulfils this destiny.

The second defence also depends on the roots of article 52, albeit this time looking to the central content of article 52(2) itself, meaning the list of exclusions independent of the proviso. That list was taken by the framers from the rules of the Patent Cooperation Treaty,⁶⁰ less out of agreement with the rules' content than as part of the framers' commitment to facilitating harmonization by ensuring the EPC's literal harmony with the texts of other international instruments.⁶¹ Legal and technological developments, however, soon meant that the text originally formulated to ensure harmonization, began to impede it, by putting Europe in arguable breach of TRIPS

⁶⁰ *Patent Cooperation Treaty*, opened for signature 19 June 1970, 9 ILM 978 (entered into force 24 January 1978) ("PCT"). See rules 39.1, 67.1 (international searching and preliminary examination authorities exempt from the need to deal with applications directed to any of the six specific types of subject matter listed in these rules).

⁶¹ See Luxembourg Conference, *Minutes of the meeting of Working Party I (Luxembourg Conference, 8–11 July 1969)*, Council of Europe Doc BR/7/69 (1969) [22]; Luxembourg Conference, *Minutes of the 9th Meeting of Working Party I held from 12 to 22 October 1971, in Luxembourg Conference*, Council of Europe Doc BR/135/71 (1971) [97]. Note in this context the non-governmental organizations' objection to retaining paragraph 2 of the draft article 52 on the basis solely of its consistency with rules 39 and 67 of the PCT, on account of the different purpose of those rules. See Luxembourg Conference, *Minutes of the 5th meeting of the Inter-Governmental Conference for the setting up of a European System for the Grant of Patents (Luxembourg Conference, 26 January to 1 February 1972)*, Council of Europe Doc BR/169/72 (1972) [11]. The Working Party's response to that objection was that the PCT rules, whilst concerned only with the requirements of search and examination, "could nevertheless be regarded as an encouragement towards national harmonization". See Luxembourg Conference, *Minutes of the 9th Meeting of Working Party I held from 12 to 22 October 1971, in Luxembourg Conference*, Council of Europe Doc BR/135/71 (1971) [95].

and at odds with its major trading partners, the US and Japan.⁶² Hence the second paradox of the whole contents theory of article 52(2); namely, the Boards’ reliance on the framers’ original objective of harmonization to support the reduction, and arguably the elimination, of the very provision to which the framers’ original pursuit of that objective gave life.

For these reasons, it can validly be said that the EPO’s approach to article 52(2) is as much a product of the origins of that provision as of the casuistic reasoning of its Boards of Appeal.

(ii) Shortcomings in the ESC’s criticism (or why the ESC’s criticism does not go far enough)

Notwithstanding this defence of the EPO’s approach, it is argued here that the ESC could, and should, have gone significantly further in its criticism of EPO jurisprudence by issuing a direct challenge to the technical character theory of article 52(2) itself.

If one thing is revealed by the history of EPO case law, it is that the concept of technical character is extremely opaque; a fact compounded, in the context of article 52(2), by the exclusion of computer programs as such despite their apparently technical nature. So opaque is it that the members of the ESC could not even agree on whether the definition of technical character contained in the Commission Proposal is consistent with EPO jurisprudence.⁶³ In fact, even the Parliament’s amendments were described, by the

⁶² On the consistency of article 52(2) of the EPC with article 27(1) of TRIPS see Daniele Schiuma, “TRIPS and Exclusion Software ‘as Such’ from Patentability” (2000) 31 *International Review of Industrial Property and Copyright Law* 36. On the consistency of article 52(2) of the EPC with US and Japanese law see *The follow-up to the Green Paper*, COM(1999) 42 final (3 February 1999) 13.

⁶³ See ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) Appendix.

Committee responsible for drafting them, as reflecting the “status quo” of that jurisprudence.⁶⁴

This opacity of the technical character theory of article 52(2) has also been exacerbated by the obscurity of its legal provenance.

The view of article 52(2) as resolving to a single requirement for technical character has been traced to the EPO’s 1985 Guidelines for Examiners.⁶⁵ Perhaps because those Guidelines are non-binding,⁶⁶ however, the Board, in its most considered defence of the technical character requirement to date,⁶⁷ referred not to the Guidelines, but rather to the nature of the article 52(2) exclusions, the “long-standing practice in at least the majority of [the EPC’s] Contracting States”, and the emphasis on technicality in rules 27-29 of the EPC’s Implementing Regulations.⁶⁸ Each of these justifications

⁶⁴ See *Report of the Committee on Legal Affairs and the Internal Market on the proposal for a directive of the European Parliament and of the Council on the patentability of computer-implemented inventions*, A5-0238/2003 (18 June 2003) Justifications for specific Amendments; Explanatory Statement [1].

⁶⁵ [1985] OJ EPO 173, 177–9 (see especially paragraph 2.2, requiring a “contribution ... of a technical character”). See, eg, John Worthy, ‘Software Patents in the UK After Merrill Lynch’ [1989] *European Intellectual Property Review* 380, 381; Sherman, above n 23, 92. See also *Merrill Lynch Inc’s Application* [1988] RPC 1 (SE, PAT), aff’d [1989] RPC 561 (CA); Jan A H van Voorthuizen, “The Patentability of Computer Programs and Computer-Related Inventions under the European Patent Convention” (1987) 18 *International Review of Industrial Property and Copyright Law* 627, 628. But see also Axel Casalonga, “Is E-Commerce Patentable in Europe?” (2002) 33 *International Review of Industrial Property and Copyright Law* 261, 268 (noting the earlier use of “technical effect” in the section of the 1983 Guidelines dealing with computer-related inventions).

⁶⁶ See T162/82 (*SIGMA/Classifying Areas*) [1987] OJ EPO 533; General Introduction to the Guidelines for Examination in the European Patent Office (available at http://www.european-patent-office.org/legal/gui_lines/) (last visited 7 July 2004).

⁶⁷ See *IBM/DA&R* [1990] EPOR 98, [3]–[4].

⁶⁸ See *IBM/DA&R* [1990] EPOR 98, [3]–[4]. See also T790/92 (*ESSWEIN/Automatic Programmer*) [1991] EPOR 121 (interpreting the subject matter in article 52(2) as solutions to problems of an abstract, commercial or recreational character, which have no immediate influence on technological

has proven inadequate. That the terms of article 52(2) themselves do not obviously support the technical character theory is clear from the contradictions and uncertainty that have always plagued their application. Similarly, rules 27-29 of the Implementing Regulations require that inventions be described and claimed by an applicant in terms of their technical features, which is different from saying that a subject matter, to be an invention, need do no more than possess such features. And finally, in relation to the “long-standing practice” of European States, one need only refer again to the relevant preparatory materials, which show the technical character theory of inventions to have been rejected by the framers from the outset.⁶⁹ In the opinion of the UK delegation to the Council of Europe’s Committee of Patent Experts published in 1956, such a theory would have been untenable in a harmonized European law, precisely because of the absence of any uniform requirement for, or understanding of, technical character in the historical practice of European states.⁷⁰

A natural question at this point is whether the historical problems associated with the technical character theory of article 52(2) will be resolved by the amendment of article 52(1) agreed at the 2000 Revision of the EPC.⁷¹ Once that amendment takes effect, article

progress and are thus inherently non-technical); Wolfgang Tauchert, “Patent Protection for Computer Programs — Current Status and New Developments” (2000) 31 *International Review of Industrial Property and Copyright Law* 812, 812 (describing lack of technical character as the criterion that links all the elements and activities mentioned in the German provisions corresponding to articles 52(2) and 52(3)).

⁶⁹ See Patents Working Party, *Proceedings of the 1st meeting of the Patents Working Party held at Brussels from 17 to 28 April 1961*, Council of Europe Doc IV/2767/61-E (1961) Section 5, 5.

⁷⁰ See Committee of Experts on Patents, *Observations of the United Kingdom Delegation; Technical Progress and Creative Effort*, Council of Europe Doc EXP/Brev (56)4 (1956) 1–4 (considering a proposal that would have defined “invention” with reference to the concept of “technical progress”).

⁷¹ See *Act Revising the Convention on the Grant of European Patents (European Patent Convention) of 5 October 1973, last revised at 17 December 1991*, Special

52(1) will specify the patentability of “inventions ... in all fields of technology”, consistent with article 27(1) of TRIPS, thereby giving the theory a more explicit legal foundation. Rather than resolve those problems, however, this amendment will make them worse, precisely by entrenching the theory at a time of divergence between the EPO and European Parliament over the meaning of technical character in the context of computer programs. In addition, even if that divergence is resolved, there remains the inherently circular nature of the theory itself, whereby decision makers rely on the requirement for technical character to avoid the terms of article 52(2), and yet are dependent on those terms to give life to that requirement.

The only way out of this circularity is, it is submitted, to invert the historical relationship between the requirement for technical character and article 52(2), as Laddie J did for the UK Patents Court in *Fujitsu Ltd’s Application*⁷² (in an approach that was, unfortunately, rejected on appeal⁷³). One would then accept that the paragraphs of article 52(2) do not resolve to any one single requirement, but rather

Edition No 4 OJ EPO (2001) 3 et seq (article 52(1) as amended: “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.”); *Explanatory Memorandum to the Revision Act*, Special Edition No 4 OJ EPO (2001) 135[6] (describing the amendment to article 52(1) as “not chang[ing] the actual legal position”, but rather as expressing, in the “internationally binding terminology” of article 27(1) of TRIPS, the “long-standing principle of European patent law that patent protection is available only for creations in a technological field”). See further above n 46.

⁷² [1996] RPC 511, 530 (“The types of subject-matter referred to in section 1(2) are excluded from patentability as a matter of policy. This is so whether the matter is technical is not.”).

⁷³ [1997] RPC 608, 614 (CA) (Aldous LJ). Note that the Court of Appeal still reached the same conclusion as Laddie J, albeit by a construction of article 52(2) as resolving to a single requirement for technical character. See [1997] RPC 608, 614. But cf [1997] RPC 608, 617, 619 (reflecting his Lordship’s concern that the mental methods and computer programs exclusions be considered separately when assessing the *Fujitsu* system’s eligibility for a patent).

reflect a series of discrete exclusions with their own policy rationales, the application of which in different contexts might even result in different standards of patentability.⁷⁴ Adopting this approach the EPO might, for example, decide that discoveries should be held to a higher or lower threshold of patentability than business methods on account of the different policy considerations that the patenting of each subject matter entails. Two possible arguments supporting decisions in both directions come immediately to mind. The first, which would see certain kinds of discoveries being held to a *lower* threshold than business methods, follows the intimation of Purchas LJ in *Genentech Inc’s Patent*⁷⁵ that the value of genetic discoveries to the community, combined with their peculiar dependence on patent protection, warrants their treatment as inventions subject only to a claim of novelty and utility on the face of the documentation, whereas even the most novel, useful and inventive business methods should be excluded from patentability under article 52(2)(c).⁷⁶ The second argument, which might see the same class of discoveries being held to a *higher* threshold than business methods, proceeds from the incorporation of certain key provisions from the *Common Proposal of the European Parliament and the Council of Ministers for a Directive on the Legal Protection of Biotechnological Inventions*⁷⁷ as a new Chapter VI of the EPC’s Implementing Regulations.⁷⁸ Pursuant to

⁷⁴ While this approach would no doubt attract criticism for offending the non-discriminatory philosophy of TRIPS (see article 27(1), extracted above n 34), that it would have that effect is far from clear, and would depend on one’s definition of the criteria against which “discriminatory treatment” of subject matter is to be assessed.

⁷⁵ [1989] RPC 147 (CA).

⁷⁶ [1989] RPC 147, 208 (CA) (Purchas LJ) (acknowledging the different standards applied to computer-related subject matter and biotechnology in the context of sub-section 1(2), and ascribing that difference to public policy considerations specific to biotechnology).

⁷⁷ (“Biotech Directive”) Doc COM (88) 196 final — SYN 159, 17 October 1988, OJ No C (13 January 1989).

⁷⁸ See *Decision of the Administrative Council of 16 June 1999 Amending the Implementing Regulations to the European Patent Convention* [1999] OJ EPO

this argument, since (and as a result of) that incorporation,⁷⁹ the EPO is obliged to accept the implication of certain recitals of the Biotech Directive that the definition of “invention” has an ethical component that precludes, under the discoveries exclusion of article 52(2)(a), the granting of patents for certain genetic materials the protection of which might offend the dignity and integrity of the person.⁸⁰ Yet another approach might involve conceding the different economies of patent scope in respect of discoveries and business methods, and permitting (or otherwise) patent protection on that basis.⁸¹

437. The provisions in question are those governing the patentability of genetic material and other elements of the human body.

⁷⁹ See especially EPC Implementing Regulations, rule 23b(1) (accepting the Biotech Directive as an interpretive aid to the EPC): “For European patent applications and patents concerning biotechnological inventions, the relevant provisions of the Convention shall be applied and interpreted in accordance with the provisions of this chapter. [The Biotech Directive] shall be used as a supplementary means of interpretation.”

⁸⁰ See Biotech Directive recital 16 (describing the requirement for an “invention” in European patent law as one means by which the application of patent law is restricted “so as to respect fundamental principles safeguarding the dignity and integrity of the person”). See also Biotech Directive recital 19 (referring to *Ethical Aspects of Patenting Inventions Involving Elements of Human Origin*, Opinion No 8 of the Group of Advisers on the Ethical Implications of Biotechnology to the European Commission, 25 September 1996, available at http://europa.eu.int/comm/european_group_ethics/gaieb/en/biotec11.htm (last visited 7 July 2004) (supporting, at [2.3], a view of European patentability criteria as “inspired by ... ethical principle”). This argument is consistent with the increasing support for tribunals’ reliance on external rules, including fundamental rights, in an effort to stem “the continuing expansion of intellectual property rights outside their traditional bounds” and thereby “correct the slide towards protection [and] reestablish[] the proper balance of interests”. See Christophe Geiger, “Fundamental Rights, a Safeguard for the Coherence of Intellectual Property Law?” (2004) 35 *International Review of Industrial Property and Copyright Law* 268, 268.

⁸¹ On the varied role and impact of patents between industries and types of subject matter, see Robert P Merges & Richard R Nelson, “On the Complex Economics of Patent Scope” (1990) *Columbia Law Review* 839; Rebecca S

At the end of the day, whatever decisions are supported in practice, the mere acceptance of article 52(2) as embodying a series of discrete policy exclusions would improve significantly the state of jurisprudence in this area by forcing greater consideration of the bases for article 52(2)'s individual provisions, thereby giving the article a clearer theoretical foundation as well as the doctrinal integrity that it currently lacks.

5. Conclusion

The recent dialogue between the different institutions of the European Union regarding the patentability of computer-implemented inventions provides a useful context from which to consider the EPC definition of “invention”. Three central questions arise from that dialogue, and, more generally, from the threatened use of EU legislation to support (or otherwise) the trend of contemporary EPO authority in relation to article 52(2). First, does it make sense to entrench further the content of that article through EU legislation, or will that entrenchment merely increase the tensions that already exist between the demands of doctrine and policy in this area? Second, should the EU be persisting with the technical character theory of article 52(2), or should it take the initiative by opening a candid debate on the function served by the requirement for an invention in European law, and the theoretical bases for any exclusions it supports? And finally, what does the history of the proposal for an EC directive in this area say about the relationship between the EU and the European Patent Organization, and their capacity to co-exist?

Eisenberg, “Analyze This: A Law and Economics Agenda for the Patent System” (2000) 53 *Vanderbilt Law Review* 2081, 2083–5; Clarisa Long, “Patent Law and Policy Symposium: Re-Engineering Patent Law: The Challenge of New Technologies: Part II: Judicial Issues: Patents and Cumulative Innovation” (2000) 2 *Washington University Journal of Law and Policy* 229, 245–6.

If the arguments above are accepted, the answer to the first and second of these questions must clearly be no. Less clear is the answer to the third, which, since the revival of the Community patent initiative, has become a critical issue (and source of further division) within the EU.⁸² That issue merits some final comments.

In the *Proposal for a Council Regulation on the Community Patent* of August 2000,⁸³ the Commission proposed an integrated Community-EPC system in which the European Community would accede to the EPC and be designated as a territory for EPO-granted European patents, which, as Community patents, would then be governed post-grant by the proposed Regulation.⁸⁴ Amongst the factors identified by the Commission as necessary for the proper functioning of such a system was a commitment by EU Member States to cooperate in their negotiations with the European Patent Organization to ensure the consistent and simultaneous development of the Community Patent and EPC regimes.⁸⁵

⁸² In the past, analysis of the failure of the Community patent initiative has tended to focus on the difficulties created by “short-term nationalistic interests” rather than by the existence of the European Patent Organization and EPC. In the context of the revived initiative see, eg, Jan Willems, “Awaiting the Community Patent — A Suggestion for a Flexible Interim Solution” (2002) 33 *International Review of Industrial Property and Copyright Law* 561, 561. But see, more recently, Otto Bossung, “A Union Patent Instead of the Community Patent — Developing the European Patent Into an EU Patent” 34 *International Review of Industrial Property and Copyright Law* 1 (2003) (supporting an abandonment of the Community patent initiative in its previously proposed form, and a revision of the Commission’s task as being “to bring this core area of the [EPC] into the legislative domain of the Community” with a view to “transforming the existing European patent into a Union patent”).

⁸³ *Proposal for a Council Regulation on the Community patent* (“CP Proposal”), COM(2000) 412 final (1 August 2000).

⁸⁴ See CP Proposal, COM(2000) 412 final (1 August 2000) 2.3.3.

⁸⁵ See CP Proposal, COM(2000) 412 final (1 August 2000) 2.3.3, 2.3.4.

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This envisaged “symbiosis”⁸⁶ between the Community Patent and EPC regimes was a further issue against which the ESC railed in its Opinion on the Commission Proposal, discussed above. It asked:

[W]ould it not be more suitable to make the EPC and the EPO EU bodies? Failing this, attempts at EU harmonization will remain backward and dependent on a non-EU organization, which is competent in only one area of intellectual property and is naturally attempting to extend its own particular area of competence and sources of revenue. However, given its specific point of view, it cannot readily perceive the overarching nature and complexity of intellectual property issues, nor the need for greater flexibility or more variety in the legal arrangements for the new technologies.⁸⁷

Questions of institutional competency aside, there remains also the feasibility of the CP Proposal, which, resting as it does on the cooperation of EU Member States in their negotiations with the European Patent Organization (as EPC Contracting States), must be seriously doubted. This is particularly so in the light of the experience of the 2000 Revision to the EPC, where a proposal to delete the computer programs exclusion from article 52(2)(c) was defeated,⁸⁸ despite the Commission’s support for the amendment as one of two “urgent” actions required in respect of European software patenting.⁸⁹

The importance of this issue for the EU is difficult to overstate. In a telling opening to the Plenary Debate on the Parliament’s Draft last September, Commissioner Frits Bolkestein reportedly remarked as follows:

⁸⁶ See CP Proposal, COM(2000) 412 final (1 August 2000) 2.3.

⁸⁷ See ESC Opinion, COM(2002) 92 final — 2002/0047(COD) (19 September 2002) [5.4].

⁸⁸ See above n 45.

⁸⁹ 19 September 2002) [5.4]. See *The follow-up to the Green Paper*, COM(1999) 42 final (3 February 1999) 13–4; above n 45.

[I]f we fail in our efforts to achieve a harmonization of patent law relating to computer-implemented inventions in the European Union, we may well be confronted with a renegotiation of the European Patent Convention. And if I may be blunt, President, the process of renegotiation of the [EPC] would not require any contribution from this parliament. So the situation is clear: there is a single objective but a choice of means. Either we proceed using the community method, or we take a back seat and watch while member states go via the route of an intergovernmental treaty. And I think it is clear which route would give European citizens a greater say through this parliament in patent legislation in an area which is so crucial to our economy.⁹⁰

No doubt considerations such as these will bear considerably on the Parliament's treatment of the Council's Proposal later this year, and help propel the same down the path of adoption. Whether the result will be a directive that "give[s] European citizens a greater say" in the area of software patenting, however, seems doubtful, given the nature and extent of the ESC's criticisms of the Proposal's central provisions, and the Parliament's apparent acceptance of those criticisms at the first stage of the codecision procedure.

⁹⁰ See *Transcript of Plenary Debate*, <http://swpat.ffii.org/papers/eubsa-swpat0202/plen0309/deba/index.en.html> (reproducing Real Player stream available at <http://europa.eu.int/comm/ebs/schedule.cfm>) (last visited 7 July 2004).

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Appendix:

Table of decisions involving the application of the contribution theory to deny patentability to general-purpose computer systems from 1988 to 1999

Case	Subject Matter and Decision	Reasoning
<i>IBM/HC</i> ⁹¹	A system for automatically detecting and correcting contextual homophone errors in a text document. The system’s contribution to the art resides in its performance of a mental method within the meaning of article 52(2)(c).	The system’s inventiveness derives from its performance of steps capable of being performed by a person using skill and judgement with the purpose of producing a purely linguistic effect, which is an effect in a field excluded by article 52(2)(c).
<i>IBM/DA&R</i> ⁹² <i>IBM/TCP</i> ⁹³	A system for automatically abstracting, storing and retrieving electronic documents, and a system for automatically detecting and replacing incomprehensible linguistic expressions. The systems’ contribution to the art resides in their provision of a scheme governed by rules of a purely intellectual nature, which makes them mental methods excluded by article 52(2)(c).	The only new concept disclosed in the application derives from its rules, which are of an intellectual nature and which do not define a new way of operating the computer in a technical sense.
<i>IBM/SRD</i> ⁹⁴	A system for editing digital text. The system is a technically conventional method of creating an object of informational and aesthetic content, which is a mental method excluded by article 52(2)(c).	Relying on the principles of <i>IBM/DA&R</i> .
<i>IBM/SRE</i> ⁹⁵	A system for automatically generating a list of expressions. The system represents the conventional use of a general-purpose computer to solve a non-technical (linguistic) problem and produce a non-technical (non-physical) effect, and is therefore inherently unpatentable.	The functionality of the system depends on the meaning or ‘abstract linguistic information content’ of the expressions, and does not involve the processing of data or signals that represent physical entities in the manner of <i>Vicom</i> and <i>Koch</i> . Its contribution to the art therefore resides exclusively in the fields of linguistics and programming.

⁹¹ T65/86 (*IBM/Homophone Checker*) [1990] EPOR 181.

⁹² T22/85 (*IBM/Document Abstracting and Retrieving*) [1990] EPOR 98.

⁹³ T38/86 (*IBM/Text Clarity Processing*) [1990] EPOR 606.

⁹⁴ T186/86 (*IBM/Spatially Related Data*) (Unreported, Technical Board of Appeal, 5 December 1989.

⁹⁵ T52/85 (*IBM/Semantically-Related Expressions*) [1989] EPOR 454.

Siemens ⁹⁶	<p>A system for displaying characters on a visual display unit in a pre-determined form on the basis of certain pre-defined rules.</p> <p>The system solves no technical problem in the sense of making a technical contribution to the prior art, and is therefore inherently unpatentable.</p>	<p>The system does not alter the physical or technical functionality of the unit in any non-conventional manner, and solves non-technical problems aimed at facilitating the user's mental assimilation of the displayed characters.</p>
IBM/DC ⁹⁷	<p>A system for enabling a user to create a document by selecting from a screen suitable text parts previously defined by the user and stored as data files.</p> <p>The system does not make a contribution to the art in a field not excluded by article 52(2). Its features fall under article 52(2) and do not contribute to a technical effect or the solution of a technical problem.</p>	<p>The system's novelty lies in its display of information on a screen — which is a presentation of information within the meaning of article 52(2)(d) — for the sole purpose of conveying information to the operator. The effect of that presentation is to enable the operator to take certain actions according to his intentions, which involves the judgement of the operator and cannot therefore constitute a technical effect.</p>
IBM/EIS ⁹⁸	<p>An interactive system for designing external interfaces for a simulated computer application.</p> <p>The system does not present a contribution in a non-excluded field, and is therefore inherently unpatentable.</p>	<p>The system's technical features are conventional, and do not improve the internal functioning of the computer.</p>
AT&T ⁹⁹	<p>A system and method for generating (unspecified) software programs from generic specifications.</p> <p>The system automates a mental act in a technically conventional manner without producing any new technical effect, and is therefore inherently unpatentable.</p>	<p>The system's features are either technically conventional or represent the automation of an essentially mental act (namely, the writing of a computer program), and do not improve the technical functionality of a computer as computer in contrast to a computer as programming tool.</p>
IBM/EBC 100	<p>An interactive method of graphically editing a chart in a data processing system controlled by a program and having a display on which the graphic objects of the chart can be selected by a cursor.</p> <p>The method makes no contribution to the art outside the field of matters excluded by article 52(2), and is therefore inherently unpatentable.</p>	<p>The method's features depend on the purely mental considerations of the operator, and on the display of business data and related information by means of a chart, neither of which confers the contribution required to show the technical character required of inventions.</p>

⁹⁶ T158/88 *SIEMENS/Character Form* [1992] EPOR 69.

⁹⁷ (Unreported, Technical Board of Appeal, 23 October 1992).

⁹⁸ T833/91 (*IBM/External Interface Simulation*) [1998] EPOR 431.

⁹⁹ T204/93 (*AT&T/Computer System*) [2001] EPOR 300.

¹⁰⁰ (Unreported, Technical Board of Appeal, 29 October 1993).

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