

PATENTS ACT 1977

IN THE MATTER OF

Patent Application Number
GB9721481.1 in the name of
International Business Machines
Corporation

DECISION

Background

1. Patent Application No. GB9721481.1 entitled “Automatic translation method and machine” was filed on 10 October 1997 in the name of International Business Machines Corporation, claiming priority from a Japanese application filed on 15 October 1996. It was published on 1 July 1998 as GB2320773. During substantive examination of the application under section 18 of the Patents Act the examiner reported that the application did not comply with section 1(2)(c) of the Act since the claims disclosed a method of performing a mental act and furthermore amounted to no more than a program for a computer. Subsequently the examiner waived the objection regarding the computer program exclusion but objection in respect of the mental act exclusion was maintained. Further correspondence failed to resolve the matter and consequently the agent requested a hearing which took place on 6 September 2001 at which the applicants were represented by their agent, Mr M J Jennings.

2. The application is concerned with translating the text in a Web page from a first language such as English to a second language such as Japanese. One of several translation environments is used to effect the translation, the selected one being chosen by comparison of the Uniform Resource Locator (URL) of the page which is requested (essentially the address of the Web page on the Internet) with a database of stored URLs or partial URLs. The hardware is conventional.

3. The application has three independent claims which read as follows :-

1 A method of automatically translating text in a Web page from a first language to a second language, the translation being performed by a translation system equipped with a plurality of translating environments, the method comprising the steps of :

(a) in response to transmission of a request for a Web page from a Web client to a Web server via a communications network, wherein the Web page request comprises a uniform resource locator that identifies a path to the Web page on the Web server and at least a portion of the uniform resource locator has an association with one of said plurality of translating environments, interpreting the transmitted uniform resource locator with reference to the association to identify the associated translating environment;

(b) selecting the identified translating environment from the plurality of translating environments in accordance with a result of the interpretation; and

(c) translating text in the Web page from the first language to the second language using the selected translating environment.

8 A data processing system for employing one of a plurality of stored translating environments to translate text in a Web page downloaded from a Web server via the Internet, comprising :

- (a) means for storing a database that contains information representing an association between at least a portion of a uniform resource locator (URL) character string and a translating environment;
 - (b) means, responsive to transmission of a request for a Web page from a Web client to a Web server via a communications network, the Web page request comprising a URL character string that identifies a path to the Web page on the Web server, for downloading the requested Web page from the Web server;
 - (c) means for searching the first means using the URL character string of the transmitted Web page request, to identify an associated translating environment;
 - (d) means for selecting the translating environment that is associated with the searched URL character string; and
 - (e) means for translating, by employing the selected translating environment, text within the Web page downloaded from the Web server.
- 12 A computer program for controlling the operation of a data processing apparatus on which it runs, to translate text contained in a Web page downloaded from a Web server via the Internet, said computer program comprising:
- (a) a plurality of translating environments;
 - (b) a database for recording associations between URL character strings and said translating environments;
 - (c) computer program code for controlling downloading of a Web page from the Web server in response to a Web page request, the Web page being specified by a user in the form of a URL character string;
 - (d) computer program code for searching said database using the URL character string of the Web page request, to identify an associated translating environment;
 - (e) computer program code for selecting the identified associated translating environments from the plurality of translating environments in accordance with the results of said search; and
 - (f) computer program code for translating, by employing the selected translating environment, text contained in the Web page downloaded from the Web server.

Legal Provisions

4. Objection has been raised under section 1(2)(c) of the Patents Act 1977 and section 1(2) reads as follows :-

“It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of

(a) a discovery, scientific theory or mathematical method;

(b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;

(c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;

(d) the presentation of information;

but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to the thing as such.”

The European Patent Convention has corresponding provisions in articles 52(2),(3) and, as Mr

Jennings reminded me, section 130(7) of the Act confirms that these provisions are framed so as to have, as nearly as practicable, the same effects.

5. Article 27 of the Agreement on Trips was also considered and the relevant section of the article reads :-

“1. Subject to the provisions of paragraphs 2 and 3 below, 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 paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, 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.”

The issue

6. At the hearing Mr Jennings argued that the application was not excluded from patentability because it included technical features which made a technical contribution to the art. He considered that the technical environment of the present invention was the World Wide Web internet service in which a client using a conventional computer with Web browser software requests from a Web server a specified file or page which the server then routes to the client. Prior art automatic translators operated by looking at the contents of the Web pages themselves to select an appropriate translating environment whilst the invention of this application utilised the fact that the URL of a requested page was available *before* the page itself arrived and was used for the selection. He argued that steps (a) and (b) of claim 1, which related to this selection, did not relate to a mental act but were preparatory technical steps performed prior to translation using the technical features of the www internet service in a novel way. By initiating the selection procedure when a Web page was requested the translation could be effected more speedily and simply. The translation step *per se* was relatively conventional. Mr Jennings maintained that a human translator would translate by analysis of the Web page content and would not perform the automated set of technical preparatory steps in response to transmission of the request for a Web page.

7. To support his view that the invention was not excluded from patentability Mr Jennings argued that the exceptions of section 1(2) should be construed narrowly, drawing my attention to the Manual of Office Practice (MOPP) which states, at section 1.08, :-

“In the absence of any further guidance from the Courts however, objection should be raised under s.1(2) only when the matter in question either is, or is closely analogous to, one or more of the categories listed in the section, since it is a canon of legal construction that exceptions should be construed narrowly.”

He also pointed out that, at section 1.10, MOPP states that matter is not prevented from being treated as an invention merely because some of its integers are excluded. The patentability of the present invention should be assessed in accordance with the passage quoted in MOPP from *Vicom/Computer-related invention* [1987] OJEP) 14, viz:-

“Decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to the known art.”

8. Mr Jennings sought to distinguish this application from *Merrill Lynch's Application* [1989] RPC 561. In his opinion *Merrill Lynch* did not address a situation in which the claimed subject matter included steps which were outside the excluded matter, as was the case in the

present application. Hence *Merrill Lynch* should not be interpreted over-broadly as meaning that technical steps in a claim should be ignored because there was some relevance to an excluded item. Mr Jennings did not consider that any technical advantage had, of necessity, to be provided by the final integer of a claim and had the claim omitted the final step and been directed to “a method for preparing a system to enable efficient processing of a Web page upon retrieval” then it would have related to a technical invention involving technical steps. In *Merrill Lynch* the contribution was limited to the business field itself.

9. In a similar manner Mr Jennings considered that the application was distinguished from UK precedents in which applications had been refused under the mental act exclusion, such as *Wang Laboratories Inc's Application* [1991] RPC 463, *Raytheon's Application* [1993] RPC 427 and earlier Office decisions refusing methods of translating, e.g *Sharp K.K.'s Applications* O/75/91 by the technical preparatory steps to which he had referred. In his view the earlier refused cases merely involved the predictable steps required when a method for performing a mental act was automated on a computer. To reiterate this view Mr Jennings argued that the reference in the Agreement on Trips to “all fields of technology” meant that it was incompatible with the Agreement to refuse all applications in the field of automatic translation. Although some translation cases have been refused by the Office it was necessary in each case to decide whether or not the claimed invention provided a technical contribution to the art in question.

10. Mr Jennings contended that the present application was allowable without any inconsistency with UK case law in the light of the judgement of Aldous LJ at the Court of Appeal in *Fujitsu Ltd's Application* [1997] RPC 608, quoting firstly at page 614 :-

“Thus the concept that what is needed to make an excluded thing patentable is a technical contribution is not surprising. That was the basis for the decision of the Board in *Vicom*. It has been accepted by this court and the E.P.O. and has been applied since 1987. It is a concept at the heart of patent law.”

and then at page 621 :-

“Methods of performing mental acts, which means methods of the type performed mentally, are unpatentable, unless some concept of technical contribution is present.”

11. Turning to cases decided at the EPO Board of Appeal and reminding me that the provisions of section 91 of the Act require that I have regard to these decisions, Mr Jennings cited *Koch & Sterkel/X-ray apparatus* [1988] EPOR 72, *Sohei* [1996] EPOR 131 and *Sternheimer/Harmonic vibrations* [1989] EPOR 131 as examples of precedent cases in which it had been held that an allowable claim may include a combination of excluded and non-excluded technical features, patentability not being destroyed merely by the inclusion of an additional feature which would itself be excluded.

12. To support his view that the invention should be assessed by the technical contribution it made to the art he pointed out that *Vicom*, which established the principle that the technical contribution made by an invention was decisive as to its patentability, had been consistently quoted with approval by the UK courts and that the principle that an invention was not excluded from patentability by Article 52(2) of the EPC if the subject matter claimed had a technical character had been further confirmed by the judgement of the Board of Appeal in *IBM's Application* [1999] RPC 861 which had resulted in a change of practice by the UK Office.

13. Mr Jennings maintained that the present invention was distinguished from *IBM/Semantically-related expressions* [1989] EPOR 454, and *IBM/Text processing* [1990] EPOR

606 which were refused by the EPO because, as the Board of Appeal had accepted, these cases were entirely linguistic, involving no more than the mere automation of the mental act of translating. However the Board had held in *IBM/Text processing* that the use of technical means for carrying out a method for performing mental acts, partly or entirely without human intervention, may having regard to Article 52(3) EPC, render such a method a technical process or method and therefore an invention within the meaning of Article 57 EPC.

14. In the light of these precedent cases Mr Jennings argued that there had been a consistent view from UK and EPO courts that, if an application involved a technical contribution to the art then patentability was possible.

15. Claims 8 and 12 were discussed briefly at the hearing, with Mr Jennings considering that technical features were more explicitly recited in these claims.

Consideration of the issue

16. I accept Mr Jennings' view that I should not interpret the exclusions of section 1(2) narrowly and that the passage in *Vicom* quoted in paragraph 7 above is one to which I should pay particular attention when considering whether or not an invention is patentable. I also accept that precedent cases establish that an invention may consist of excluded and non-excluded technical features and result in a claim not excluded from patentability.

17. At the heart of the matter is the issue of whether the invention as claimed relates to a mental act as such or whether, as Mr Jennings has argued, the mental act is merely one step in a larger whole which includes technical features in a technical field. At first sight Mr Jennings' argument that the invention lies in the technical environment of the www internet service and comes about because of the way in which the Web operates has some attraction. However, since all automatic translators could be considered to be operating in a technical field, the field of computers, I do not think it follows that, because a technical environment is involved, any contribution the invention claimed makes is necessarily technical. Rather it is necessary to look at the claims and decide where the contribution lies.

18. Claim 1 is directed to a method of automatically translating text from a first language to a second language by a translation system equipped with a plurality of translating environments. It includes the steps of identifying a translating environment in accordance with at least a portion of the URL but the claim results in the translation of a Web page from a first language to a second language. This seems to me to put the claimed invention clearly in the field of translation and I am reinforced in this view by the fact that the application is entitled "Automatic translating method and machine" and the field of the invention is stated to be the translation of text from a first language to a second language. Therefore I consider that the environment in which the invention lies is the field of translation and not in a technical field.

19. I am not convinced by Mr Jennings' argument that some of the steps specified in the claim are not part of the translation process but preparatory steps taken prior to the translation step. A human being might need to take a preparatory step of, for example, selecting the appropriate dictionary, and perhaps even selecting the appropriate type of dictionary, e.g. scientific, but I would still consider these steps to be part and parcel of the process of translation. In the *Raytheon* case, for example, the method of claim 8 included "storing digital data representative of a plurality of reference silhouettes". This step is clearly a preparatory step taken

prior to the identification of the ship, not being part of the identification process *per se* but being a necessary step to build up the necessary directory which is subsequently used to effect the identification at the end of the claim. This claim was rejected under the mental act exclusion and, in my view, similar considerations apply in the present case. The steps listed are part of the translation process and this is borne out by the fact that they are steps in a claim which is directed to “a method of automatically translating text”. Mr Jennings hypothesised about the allowability of a claim to “a method for preparing a system to enable efficient processing of a Web page upon retrieval” but such a claim would be to a monopoly not envisaged in the application and in these circumstances I am not prepared to speculate on the allowability of such a claim, which, in my view, is unlikely to be supported by the present description.

20. Neither am I convinced that these steps are *technical*. Comparing the URL of a requested Web page with stored URLs to determine which dictionary to use does not seem to me to be a technical process but is more akin to the mental process. The data being examined in the URL may represent a Web page address but the computer is not operating in any new technical way, the data being examined solely for its linguistic information. It is not being altered in any way but merely being compared with stored data to make a selection. This I consider to be a mental step. It is even a step which a human might well take since looking at the country code, eg. *uk*, *fr* or *es* in the URL would give an indication of the likely language of the document. Whilst Mr Jennings argued that a human being would not generally know in advance the URL of a requested page and hence would not perform the same preparatory steps he agreed that in some instances the URL would be known to a user at the time when a page was requested. However I view this potential difference in the translation method of a computer and a human as irrelevant since it would appear to be immaterial whether or not the steps are those which would be used by a human being, following the decision of Aldous J in *Wang*, where he stated:-

“The method may well be different when a computer is used, but to my mind it still remains a method for performing a mental act, whether or not the computer program adopts steps that would ordinarily be used by the human mind.”

21. Even if I were wrong in concluding that the claim does not include any technical steps I do not consider that the claim would be patentable. My attention was drawn to the decision of Aldous LJ in *Fujitsu* and the EPO Board of Appeal in *IBM/Text processing* but, in the judgement of the Court of Appeal in *Merrill Lynch*, Fox LJ stated :-

“Now let it be supposed that claim 1 can be regarded as producing a new result in the form of a technical contribution to the prior art. That result, whatever the technical advance may be, is simply the production of a trading system. It is a data-processing system for doing a specific business, that is to say, making a trading market in securities. The end result, therefore, is simply “a method ... of doing business”, and is excluded by section 1(2)(c). The fact that the method of doing business may be an improvement on previous methods of doing business does not seem to me to be material. The prohibition in section 1(2)(c) is generic; qualitative considerations do not enter into the matter. The section draws no distinction between the method by which the mode of business is achieved. If what is produced in the end is itself an item excluded from patentability by section 1(2), the matter can go no further. A data processing system operating to produce a novel technical result would normally be patentable. But it cannot, it seems to me, be patentable if the result itself is a prohibited item under section (1)(2). In the present case it is such a prohibited item”

22. Mr Jennings considered that any technical contribution need not be in the end result but,

it seems to me, following the reasoning of *Merrill Lynch*, that if the end result of a claimed invention is itself a prohibited item then regardless of where any technical contribution occurs the invention is excluded. It does not matter if the end result is produced more simply and/or quickly. In the present case the end result of the claimed invention is a new method of translation which is method for performing a mental act. This is a prohibited item and hence the claimed invention is excluded.

23. Claims 8 and 12 are not directed to methods of translating but to a translation system and a translation program respectively. However Aldous LJ stated in *Fujitsu* :-

“Mr Birss sought to rely upon the form of the claims. He submitted that claim 10, directed as it was to a computer apparatus having a number of features and claim 9 directed to a method of manufacturing a structure could not be said to relate to an invention consisting of a computer program as such.

The submission cannot be right having regard to the judgement of Nicholls LJ in *Gale* [*Gale’s Application* [1991] RPC 305]. In that case, I held at first instance that the ROM claimed was not excluded as it was an article which had been altered during manufacture so as to perform the function of the method or program defined by the claim. The Court of Appeal decided that that was not correct and that the court should look at the claims as a matter of substance. It was both convenient and right to strip away, as a confusing irrelevance, the fact that the claim was for ‘hardware’.”

Similarly, in *Merrill Lynch*, where claim 1 was directed, not to a method of doing business but to a data processing system, Fox LJ said, at page 569, :-

“... it seems to me to be clear, for the reasons indicated by Dillon LJ [in *Genentech Inc’s Patent* [1989] RPC 147] that it cannot be permissible to patent an item excluded by section 1(2) under the guise of an article which contains that item - that is to say, in the case of a computer program, the patenting of a conventional computer containing that program.”

Thus it is generally accepted that substance must prevail over form and it is therefore necessary to construe each claim carefully to determine whether it relates to an excluded matter in the guise of some other article.

24. The wording of these claims is, in my opinion, merely a matter of form with any novelty residing in the way in which the translation is effected. Since a method for translation is an item excluded from patentability by section 1(2)(c), then both a system and a computer program for performing translation are also excluded since, in substance, they amount to no more than a scheme, rule or method for performing a mental act as such. In these claims Mr Jennings drew my attention to technical features such as means for downloading a web page. However I do not consider the inclusion in the claims of conventional technical features is sufficient to save an invention from exclusion. The apparatus claims in *Raytheon* included conventional technical components, such as the digitising means and in my view the technical features of claims 8 and 12 are also conventional since the application makes clear, at page 18, that the components of the computer system employed are well-known.

25. In respect of Mr Jennings’ arguments about the significance of the Practice Notice issued in April 1999 whilst I accept that this confirmed the intention of the UK Patent Office to follow EPO practice it related only to computer programs which, when run on a computer, provided a technical effect. Subsequent to the notice claims to computer programs *per se* were allowable if a claim to the computer when programmed would not have been excluded under section 1(2)(c) under the previously existing practice. The Office considered that this change in practice was

fully consistent with UK case law. In the present case objection has been raised under the mental act exclusion and therefore, apart from its reiteration of the long established practice of the persuasive value of EPO jurisprudence, I do not consider that the issuance of the Practice Notice helps Mr Jennings' case. Although claim 12 is directed to a computer program, for the reasons given above the invention is not of the type which would have been previously allowed if claimed as a computer when programmed.

Summary

26. In summary I have decided that the contribution which the invention makes is in the art of translation and that this contribution is not technical. Consequently the invention as claimed in all the claims is prohibited from patentability by the exclusions specified in section 1(2)(c). Having read the specification in its entirety, I cannot envisage any amendment to the claims which would overcome this objection. Accordingly I hereby refuse the application under section 18(3) on the grounds that the invention claimed therein is excluded by section 1(2)(c).

Appeal

27. Since this is a substantive matter, any appeal should be filed within six weeks of the date of this decision.

Dated this 12th day of September 2001

MRS J A WILSON
Deputy Director , acting for the Comptroller

THE PATENT OFFICE