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Ex 0136/92

THE PATENTS ACT 1977

IN THE MATTER of Patent Application
No 8817517 by Sharp KK

DECISION

Application No 8817517 was filed on 22 July 1988 claiming priority from three Japanese patent applications dated 22 and 30 July and 1 August 1987, and was published under the number 2208448A on 30 March 1989. During the substantive examination the examiner objected that the invention claimed was excluded from patentability by subsections 1(d) and 2(c) of Section 1 of the Act. The applicant contested this objection and in the absence of agreement between the applicant and the examiner, the matter came before me at a hearing on 9 January 1992 when Mr D C O'Connell of Haseltine Lake & Co appeared as agent for the applicant.

The present application relates to a word processor which permits a human operator to designate arbitrarily any string of characters in a stored and displayed text, to enter one or more strings of characters as alternatives to the designated string, and to select one of the alternative strings which is then substituted for the designated string in the text. The aim is to facilitate revision of a stored text by a human operator wishing to elaborate or change the text's mode of expression. In particular, the selection by the human operator from a number of alternative expressions by a process of trial and error is facilitated because all the alternatives remain stored in the word processor and can therefore be placed in the text one after the other without the need to feed an alternative expression into the word processor each time a substitution is to be made.

The specification includes four independent claims, to all of which the examiner had objected. However, it was agreed at the hearing that it was convenient to consider only claim 11 on the basis that all the remaining claims stand or fall with claim 11. Claim 11 reads:-

11. A word processor comprising:
 - a display;
 - a designating means allowing a user to designate arbitrarily a character string;
 - an input means allowing the user to input a plurality of substitutive character strings for said designated character string;
 - a memory means for storing said plurality of substitutive character strings simultaneously; and
 - a substituting means for substituting said designated character string with a selected one of said substitutive character strings.

The examiner raised two independent lines of argument which are set out in the Official Letter of 18 November 1991. The two arguments are based respectively on the following two propositions of law. First, for a claim to a conventional computer containing a novel program to be patentable, a technical advance on the prior art in the form of a new result must be present because otherwise, the claim amounts to no more than a claim to the computer program as such. Second, a claim to a conventional computer running a novel program which performs a mental act is not patentable irrespective of any technical advance on the prior art because it amounts to no more than a scheme, rule or method for performing a mental act as such. The first proposition derives from the decision in the case of Merrill Lynch's Application [1989] RPC 561 and the second from that decision and the decision in the case of Wang Laboratories Inc's Application [1991] RPC 463. Mr O'Connell agreed that these two propositions were a correct statement of the law and therefore, since I also believe them to be correct, I must now apply them to the present case.

The specification is drafted largely in functional terms by reference to flow drawings which set out the steps taken by the word processor when handling and storing the character strings. The specification does however state that "the term "word processor" means a variety of computer apparatus including a so-called word processor and other apparatus which can process words and/or documents using a computer". The specification further states that one of the three embodiments described "can be realized in the form of software incorporated in an ordinary software for a word processor". All the embodiments are said to comprise components in the block drawing of Fig 4 which shows the arrangement of a number of

integers making up the word processor, including a display and a memory means, the remainder of the description relating to all the embodiments being in essence functional. From this I conclude, and Mr O'Connell agreed, that the word processor of the invention consists of a conventional computer programmed to perform the functions set out in the description and claims. For the purposes of this decision I shall assume that the program concerned is novel.

Given that it is agreed that the invention claimed is a conventional computer containing a novel program, it follows that what I must decide is whether the invention claimed involves a technical advance on the prior art in the form of a new result, and whether the invention claimed performs a mental act. Mr O'Connell agreed that these were indeed the decisions I must make but contested the examiner's view that the invention claimed did not involve a technical advance and did perform a mental act.

At the hearing Mr O'Connell began with the question of whether the invention performed a mental act. He referred me to a number of cases decided by the Technical Board of Appeal of the European Patent Office - and I am enjoined by the Court of Appeal's decision in Gale's Application [1991] RPC 305 to pay the greatest respect to the Board's decisions even though strictly I am not bound by them. The cases included IBM/Abstracting documents T22/85 [1990] EPOR 98, IBM/Reading age T38/86 [1990] OJEPO 384, IBM/Spelling checker T121/85 (unreported), IBM/Semantically related expressions T52/85 [1989] EPOR 454, and IBM/Homophone checker T65/86 [1990] EPOR 181. Mr O'Connell also referred me to Wang Laboratories Inc's Application [1991] RPC 463. Mr O'Connell argued that the present application was distinguished from all these prior cases in which the inventions claimed were such that the computer itself automatically performed steps which amounted to a complex act of mental reasoning, and moreover were such that the outcome was the result of performing the mental acts concerned.

For example, in IBM/Abstracting documents the computer itself automatically produces an abstract of a document so that the outcome is the abstract. In IBM/Reading age, the operator having entered some text, the computer itself scans the text and identifies and highlights words having a reading age higher than a preset value. For each highlighted word, the

operator can then cause a list of synonyms each with a reading age less than or equal to the present age to be displayed, and can cause a selected synonym to be inserted in the text in place of the original word. Although the selection is performed by the operator, the mental act of identifying which words are above the preset reading age is done by the computer. IBM/Spelling checker is similar except that the computer identifies and highlights incorrectly spelled words. IBM/Homophone checker is also similar, words such as "their" and "there" (homophones) being highlighted when the rules of grammar suggest they have been incorrectly used. In IBM/Semantically related expressions an operator highlights a word in a stored text whereupon the computer displays a list of synonyms or antonyms to the highlighted word. And in the Wang case what was claimed was an expert system which produced expert advice. In all these cases Mr O'Connell argued, it was the presence of an express and identifiable mental act of reasoning performed by the computer which caused the applications to be rejected.

Mr O'Connell argued that the present case on the other hand was different in that it is not the computer itself but the operator who performs a mental act, namely selecting from among the alternative expressions stored. The computer merely provided a tool which presented those alternatives in a practically helpful way to assist the operator in performing the mental act of selecting the best expression from the alternatives which had been entered. Thus Mr O'Connell concluded that in the present case the omission from the invention claimed of the mental step of selecting from the alternative expressions means that it cannot be said that the invention performs a mental act and that consequently, it cannot be said that the invention is excluded from patentability.

In this connection, Mr O'Connell also referred me to a decision of the Technical Board of Appeal of the EPO in the case of IBM/Communication system T216/89 (unreported) in which following an official objection that the claims involved mental acts on the part of an operator and were consequently excluded from patentability, the Appeal Board considered amended claims directed to a data communications system including transmitting and receiving terminals wherein at least one of the two terminals displays transmitted data and has means for changing the display mode whereby the data can be displayed either in decoded or undecoded form. The idea is that where an operator suspects a transmission malfunction,

the mode would be switched to give an undecoded display from which the operator might be able to deduce what was causing the malfunction. Although the papers which were available at the hearing did not set out the claims in the form to which objection was originally taken, they did include the statement by the Appeal Board that "... although the operator(s) would have to perform mental acts to recognise the existence of a transmission problem and diagnose it, the system itself (as now claimed) does not involve a mental step, so the reason given by the Examining Division for refusing the application no longer applies." The Board then went on to conclude that the claims did not amount to a computer program as such and remitted the application to the Examining Division who were directed to grant the patent. Thus in this case, a mental act was omitted from the claims and the application was subsequently granted.

Having considered this matter, I do not accept that it follows that because the mental act of selecting among the alternative expressions is not a feature of the present invention claimed, the invention which is claimed is not excluded from patentability. It is clear that in a number of the cases to which my attention was drawn there are mental acts with which the inventions concerned were associated but which did not form part of the inventions claimed and where the application was still refused. For example, in the IBM/semantically related expressions case any selection among the displayed synonyms and antonyms is not performed by the computer itself but by human operators. Thus, the omission of a mental act from a claim is not in my judgment sufficient of itself to save the claim.

Rather it seems to me clear that the question of patentability has to be judged on the basis of the invention which is claimed, not that which is not claimed. This I think follows from, and is consistent with, all the decisions to which I was referred, including IBM/Communication system where I think it is clear that the Board's decision was reached on the basis of the revised claim and not solely what was omitted from the original claim. If this were not so, the result could be that a claim to a complex mental act involving two parts would be refused, whereas a claim to a simple mental act which omitted one of those two parts would be patentable. Indeed this was a conclusion from which Mr O'Connell did not shrink. He urged upon me the view that it is only complex, reasoned mental acts such as language translation which it is intended should be refused and not simpler, non-reasoned mental acts such as storing data.

On this point, Mr O'Connell also referred me to the decision in the Wang case where Aldous J remarked:-

"Before turning to the claims, I must deal with a submission of Mr Burkill, who appeared for the applicants. He submitted that the words "a scheme, rule or method for performing a mental act" in section 1(2)(c) only excluded schemes, rules or methods which were intended to be performed and were capable of being performed in the human mind. He submitted that the word "for" introduced a subjective element. Thus, as claim 1 had as its basis steps which were not intended to be carried out by a human, in that the human mind would not go through those steps, the basis of the claim was not excluded matter.

The word "for" does not, in my view, introduce a subjective element. It means "for the purposes of". The fact that the scheme, rule or method is part of a computer program and is therefore converted into steps which are suitable for use by a person operating the computer does not matter. What is excluded from being patented is a scheme, rule or method for performing a mental act, whatever mental steps or process is involved. As I pointed out in Gale's Application, it is a question of fact to be decided in each case whether the claimed invention is more than a claim to an invention for disqualified matter. Just as a claim to a disc containing a program can be in fact a claim to an invention for a computer program, so can a claim to steps leading to an answer be a claim to an invention for performing a mental act, whether a computer is used or not. Thus a method of solving a problem, such as advising a person whether he has acted tortiously, can be set out on paper, or incorporated into a computer program. The purpose is the same, to enable advice to be given, which appears to me to be a mental act. Further, the result will be the advice which comes from a performance of a mental act. 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 not ordinarily be used by the human mind."

While this passage is not inconsistent with Mr O'Connell's view that only complex, reasoned mental acts with a positive outcome should be excluded from patentability, see for example the reference to "steps leading to an answer", to "solving a problem, such as advising a

person whether he has acted tortiously" and to "the result will be the advice which comes from the performance of a mental act", I do not construe the passage as supporting Mr O'Connell's submission. In my view, in this extract Aldous J was not defining or limiting the nature of non-patentable mental acts other than to say that whether the steps of the method are performed by a computer, or are the same as or different from those which would normally have been performed by a human being, is not relevant. Moreover, I can see nothing in the Act which suggests that a distinction should be drawn between different kinds of mental acts. I am unable to accept therefore that the law intends that any such distinction should be drawn between categories of mental act, nor do I accept that such a distinction has been drawn in any of the previous decisions to which I was referred. It seems clear to me from Wang, from Fox L J's remarks in Merrill Lynch, and from IBM/Abstracting documents, that it is the substance of the invention claimed and the contribution it makes to the art, and not the form in which the invention is presented in a claim which is central to the question I have to decide. It is therefore necessary for me to look at what is claimed and determine, in the words of Fox L J in Merrill Lynch's Application [1989] RPC at page 569, whether "what is produced in the end is itself an item excluded from patentability by Section 1(2)(c)", namely a scheme, rule or method for performing a mental act.

On this basis, Mr O'Connell argued that in this case the result and the contribution to the art was not a set of rules by which one expression was to be replaced by another, and therefore was not a scheme, rule or method for performing a mental act but was instead a system arranged to allow the operator to make multiple trial replacements of phrases without needing to re-enter data each time. I am unable to accept this view. It seems to me that what is claimed in claim 11, and the contribution which that claim makes to the art, amounts to a means for storing a text together with some alternative expressions which can be substituted for a designated part of the text, repeatedly if desired. As such, the claim amounts to no more than is done in the human brain by an author when considering how a text might best be expressed, and in my view, even though this may not involve any cogitative reasoning, it is still a mental act. In other words, I believe that what is claimed amounts to no more than an automation of a mental process. The fact that the arrangement provided may have significant advantages is not I think a factor because the advantages provided are only of the

sort which would be expected to flow from any automation. Accordingly, in my judgment claim 11 amounts to no more than a scheme, rule or method for performing a mental act as such and is therefore excluded from patentability by section 1(2)(c) of the Act.

The second decision I must take is on the question of whether the invention claimed involves a technical advance on the prior art in the form of a new result. The difficulty with deciding whether a technical advance is present is that, as Aldous J observed in the Wang case, the word "technical" is not used in the Act or in the European Patent Convention. However the guidance which is available in the EPO Appeal Board decisions to which I was referred, and also in the decisions of the Courts in the Merrill Lynch, Wang and Gale cases by which I am bound, suggests to me two areas in which a technical result could be achieved.

First, there is the field in which the invention operates, in this case word processing. At the hearing Mr O'Connell submitted that although the word processor of the invention is essentially concerned with linguistics, it is still possible for there to be a technical advance in the form of a new result. He argued that there is such a technical advance in the provision of a facility which enables an operator to feed data, any data, into a word processor in a particular way which is convenient, efficient and practical. With respect to Mr O'Connell, I think his argument that in this case there is a technical advance is wrong. Although the word processor of the invention is not concerned with the intellectual meaning of a text in the same way as a language translation system would be, it is nevertheless essentially concerned with language and the way in which the human mind deals with language. The arrangement claimed is directed at, and dictated by, these factors alone and not by any technical consideration. Consequently, while the invention may produce a new, and indeed a practically useful, result, and in both respects I am prepared to assume that it does, I do not think it produces a technical advance.

Second, there is the computer itself. It seems clear inter alia from the decision of the EPO Appeal Board in the case of Koch & Sterzel [1989] EPOR 72 - though this case was not referred to at the hearing - that patentability can result from a technical advance in the internal operation of the computer itself. In principle I am prepared to accept that this may be so but I think it is also necessary to consider what the EPO Appeal Board said in their decision in IBM/Abstracting documents:-

"8. For carrying out in practice an activity excluded as such under Article 52(2)(c) EPC some means may be used which themselves could be qualified as technical eg a computer controlled by appropriate software. A claim directed to an excluded activity but at the same time containing such technical features would not appear to be unallowable under all circumstances. However, the mere setting out, as in the present case, of the sequence of steps necessary to perform the activity in terms of functions or functional means to be realised with the aid of conventional computer hardware elements does not import any technical considerations and can, therefore, neither lend a technical character to that activity nor to the claimed-subject matter considered as a whole, no more than solving a mathematical equation could be regarded as a technical activity when a conventional calculating machine is used and thereby overcome the exclusion from patentability."

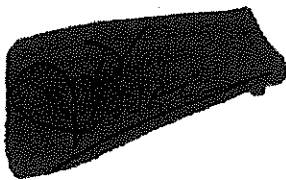
From this I conclude that the Board is saying that if an invention is argued to be patentable because it achieves a technical effect, then that effect must be over and above any technical effect present as a normal consequence of the use of functionally defined means of the kind found in a conventional computer.

Taking that into account, as I believe I should, leads me to the conclusion that there is in fact no technical advance within the computer in this case. In my view, the arrangement of the internal elements of the computer in accordance with the invention is in technical terms, wholly conventional. As I indicated above the features of the invention are dictated solely by linguistic and human, and not technical, considerations. Accordingly, in my judgment there is no technical advance in the form of a new result in the internal workings or arrangement of the computer and it follows from this that claim 11 is also excluded from patentability by Section 1(2)(c) of the Act because it amounts to no more than a program for a computer as such.

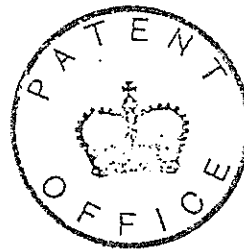
In conclusion therefore, I support the examiner's objections that the invention claimed in claim 11 is excluded from patentability by section 1(1)(d) and 1(2)(c) of the Act. Moreover, as Mr O'Connell agreed would follow from such a decision, I do not think that any of the other claims include matter which renders them patentable. Nor do I consider that any amendment would be possible which would overcome this objection and consequently, I refuse to allow the application to proceed.

Any appeal from this decision should be filed within a period of six weeks from the date of this decision as set out below.

Dated the 5 day of FEBRUARY 1992.



D M HASELDEN
Principal Examiner, acting for the Comptroller.



THE PATENT OFFICE