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THE PATENTS ACT 1977

IN THE MATTER of Patent Applications numbered 8815572.6 and 8815573.4 by KK Toshiba.

DECISION

Applications 8815572 and 8815573 were both filed on 30 June 1988 claiming priority respectively from Japanese patent applications dated 30 June 1987, and 30 June and 6 October 1987. The applications were subsequently published under the numbers 2207531A and 2208020A. During the course of substantive examination objection was raised against both applications that the inventions claimed were excluded from patentability by subsections 1(d) and 2(c) of section 1 of the Act. The applicant contested the objections but as neither examiner was persuaded to withdraw, the matter came before me at a hearing on 24 January 1992 when Mr R P Maury of Marks and Clerk appeared on behalf of the applicant.

The applications concern inference processing systems for use in expert systems that use computers in place of a human expert to store knowledge and infer conclusions from that knowledge. Both relate to the use of a network of data processors operated in parallel to process information at high speed.

In application 8815572 the system operates on rules in "IF-THEN" form so that for example, a rule might require that if one or more conditions are met, then one or more operations are to be performed and the results returned to store. It is stated in the specification that it is known to use a plurality of processors in parallel to detect when the conditions required by the rules are met; but it seems that in the known systems it is still the case that operations required by the rules whose conditions are met are effected one after another. The invention aims to increase the degree to which the operations are performed in parallel by increasing the degree of parallelism used when detecting whether the conditions are met, thereby completing this process at an earlier stage and enabling processors to be used in parallel to perform the operations, subject of course to the need to perform operations consecutively

where operation in parallel would produce conflicting results. The arrangement allows a rule to be processed in a maximum of four steps rather than the five or more which may be required in the prior systems.

When the hearing was appointed a number of objections were outstanding against the claims then on file, inter alia under section 76, but it was agreed at the hearing that the issue of patentability could be decided on the basis of the following, amended, independent claims which would otherwise be acceptable:-

1. An inference processing system for handling a plurality of if-then rules by matching condition clauses of said rules with the values of elements stored in a working storage to which said rules are applicable and ascertaining whether all the condition clauses of each rule are matched, said plurality of rules being realised in hardware comprising: a plurality of constant-test nodes at which the values in said working storage are matched with constant values included in the condition clauses; a communications link between the working storage and the constant-test nodes for data transfer; and a plurality of rule nodes at which matches of all of the preceding condition clauses of each rule are ascertained; wherein the constant-test nodes corresponding to each condition clause of each rule are connected as a series of no more than two nodes to the associated rule node in series without intervention of, and independent of, any other node so that matching of any condition clause can be carried out independently in parallel with matching of other condition clauses, and so that matching and execution is effected using series of nodes no more than four in length; wherein parallel processors are assigned to each of the said nodes, and are each dedicated to at least one respective predetermined function, and connection means connect the processors to each other in accordance with links interconnecting the said nodes, so as to carry out matching operations; to execute the said rules in parallel in accordance with the results of the matching operations and to output the results of the said rules.

4. An inference processing system for handling a plurality of if-then rules by matching condition clauses of said rules with the values of elements stored in a

working storage to which said rules are applicable and ascertaining whether all the condition clauses of each rule are matched, said system comprising: a plurality of constant-test nodes at which the values in said working storage are matched with constant values included in the condition clauses; a communications link between the working storage and the constant-test nodes for data transfer; a plurality of comparison nodes at which the values of said working storage are compared with other values in accordance with said condition clauses; a plurality of rule nodes at which matches of all the preceding condition clauses of each rule are ascertained; and means for determining, when simultaneous matches of all the preceding condition clauses of two rules would result in different states of said system, an order of execution by assigning a priority to one of said two rules; and wherein parallel processors are assigned to each of the said nodes and are each dedicated to at least one respective predetermined function, and connection means connect the processors to each other in accordance with links interconnecting the said nodes, so as to carry out matching operations, to execute the said rules in parallel in accordance with the results of the matching operations and to output the results of the execution of the said rules.

5. An inference processing system for handling a plurality of if-then rules by matching condition clauses of said rules with the values of elements stored in a working storage to which said rules are applicable and ascertaining whether all the condition clause of each rule are matched, said plurality of rules being realised in hardware comprising: a host computer connected to each of a plurality of constant-test nodes at which the values in said working storage are matched with constant values included in the condition clauses; a communications link between the working storage and the constant-test nodes for data transfer; and a plurality of rule nodes at which matches of all of the preceding condition clauses of each rule are ascertained; wherein the constant-test nodes corresponding to each condition clause of each rule are connected as a series of no more than two nodes to the associated rule node in series without intervention of, and independent of, any other node so that matching of any condition clause can be carried out independently in parallel with matching of other condition clauses, and so that matching and execution is effected using series of nodes

no more than four in length; wherein parallel processors are assigned to each of the said nodes, and are each dedicated to at least one respective predetermined function, and connection means connect the processors to each other in accordance with links interconnecting the said nodes, so as to carry out matching operations; wherein said constant-test nodes are arranged into two levels, at one level the contents of said storage being sorted out in a plurality of classes, and at the other level, the value of at least one attribute belonging to each class of the content of said storage being read out; such that when the condition clause or clauses of any rule are matched by attributes of work storage elements, the rule node receives from the attribute node or nodes the identifying number relating to those elements, searches for and retrieves from the work storage the elements corresponding to the attributes, executes the rule on those elements in parallel with the other rule node processors and then outputs the results in the form of an instruction to a constant-test node by way of the host computer to update the work storage accordingly.

In application 8815573, the system finds solutions to a particular goal it has been set. For example, given a set of facts concerning the family relationships between certain individuals, the system may be asked to infer the relationship between two of those individuals whose relationship has not been specified. In the known systems this involves repeatedly running through a series of relationships, adding newly inferred information while searching for a solution to the goal which has been set. In the present system, a network of parallel processors stores tables established for given goals and containing the required links between related individuals. The processors access appropriate tables in parallel and search the facts to establish the individuals concerned. When individuals are identified the stored tables are updated so that all processors can continue using the updated information. The parallel operation enables the system to operate at higher speeds.

As with the other application, when the hearing was appointed there were a number of objections outstanding against the claims then on file, inter alia under section 76. However it was agreed at the hearing that the issue of patentability could be decided on the basis of the following, amended, independent claims which would otherwise be acceptable:-

1. An inference processing system for finding solutions to a goal given by an external unit by matching the goal with certain facts expressed in the form of a semantic network composed of nodes and links that connect the nodes to each other, comprising:

a plurality of processors provided for the nodes of the semantic network respectively, each of said processors being dedicated to a predetermined task by storing tables prepared for respective goals to be given and by storing linking information related to links connected to a corresponding one of the nodes, each of the tables storing names of output links to follow when at least a goal corresponding to the table is inputted thereto as well as output markers for specifying kinds of the output links;

and connecting means for connecting said processors to each other according to the links of the semantic network;

the arrangement being such that in operation of the system, that is after the storage of the tables and linking information, each of said processors includes means for specifying, when a goal and a marker are inputted thereto from another of said processors through said connecting means, an output link name and an output marker in the tables and for specifying linking information according to the inputted goal and marker, and for sending the goal and specified output marker to links having the specified output link name, thereby carrying out parallel inference processing.

9. An inference processing system for finding solutions to a goal given by an external unit by matching the goal with certain facts expressed in the form of a semantic network composed of nodes and links that connect the nodes to each other, comprising:

a plurality of processors provided for the nodes of the semantic network respectively, each of said processors being dedicated to a predetermined task by storing tables which are identifiable with a goal or a marker from the other side of said processors given thereto which include means for storing linking information related to links connected to a corresponding one of the nodes, each of the storage means storing input link names or input markers as well as storing output link names or output markers corresponding to the input link names or the input markers;

and connecting means for connecting said processors to each other according to the links of the semantic network;

the arrangement being such that in operation of the system, that is after the storage of the tables and linking information, each of said processors includes means for specifying when a goal and a marker are inputted thereto from another of said processors through said connecting means, an output link name and an output marker in the tables and for specifying linking information according to the inputted goal and marker, and for sending the goal and specified output marker to links having the specified output link names, each of said processors further including means for specifying when only a goal is inputted thereto from the external unit, an output link name and an output marker in the tables and for outputting the goal and the specified output marker to links having the specified output link name.

13. An inference processing method for finding solutions to a goal given by an external unit by matching the goal with certain facts expressed in the form of semantic network composed of nodes and links that connect the nodes to each other, the network being established by:

storing, within each of a plurality of processors provided for the respective nodes of the semantic network, a table prepared for the respective goals to be given and linking information related to links connected to a corresponding one of the nodes, each of the tables storing names of output links to follow when at least a goal corresponding to the table is inputted thereto as well as output markers for specifying kinds of the output links; and

connecting said processors to each other according to the links of the semantic network;

and the system operating by:

specifying, when a goal and marker are inputted to one of said processors from another of said processors, an output link name and an output marker in the tables and specifying linking information according to the inputted goal and marker; and then sending the goal and the specified output marker to links having the specified output link name, thereby carrying out parallel inference processing.

20. A method of driving parallel processors linked by a communication channel to carry out inference to find solutions to a goal, said method comprising:

assigning each processor to a node of a semantic network;

giving a first table to each processor indicative of the node assigned to the processor and how the processor is linked to the other processors in the network;

giving a second table indicative of the goal of the inference to each processor, the exchange of information between the processors linked to each other being carried out in accordance with said information, and the table being indicative of a relationship between link names and markers input to said processor and link names and markers to be output from said processors in response to said link names and markers; and

executing the inference by giving said goal to one of said processors in accordance with said first and second tables.

The examiners dealing with the applications each raised two independent lines of argument which are conveniently set out set out in the respective Official Letters, both of 14 November 1991. The arguments are first that, from the decision in Merrill Lynch's Application [1989] RPC 561 it follows that 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. In both the present cases, the examiners argue, the claims amount to a conventional computer with a novel program but with no technical advance. Second, from the decisions in Merrill Lynch and Wang Laboratories Inc's Application [1991] RPC 463 it follows that a claim to a conventional computer running a novel program which performs a mental act - as the examiners argue is the case in the present applications - 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.

At the hearing Mr Maury sought to rebut these arguments by distinguishing the present applications from the Merrill Lynch and Wang cases on the facts. In his submission, the present inventions did not involve conventional computers containing novel programs but

instead involved systems which when set up or programmed with a knowledge base, constituted novel technical structures. Consequently, Mr Maury argued, none of the considerations involved in the Merrill Lynch and Wang decisions arose and the inventions claimed in the present applications are not excluded computer programs or mental acts but patentable technical entities. Mr Maury also submitted that in the event I was not able to distinguish the present inventions from Wang in this way, neither application should be refused on the grounds that it was performing a mental act, and therefore amounted to no more than a method for performing a mental act as such, because Parliament had intended this exclusion to apply only to mental acts performed by a human and not to analogous machine processes which the human brain would never follow.

The first question I must therefore consider is whether the inventions claimed are conventional computers running a novel program or whether they are technical entities which qualify for patent protection.

The specification of application number 8815572 is entitled "Inference Processing" and opens by stating that the invention relates to an inference processing system for carrying out forward reasoning, and particularly one with a plurality of processors operated in parallel. It goes on to deal with the form of the IF-THEN rules and the arrangement of nodes at which the various comparisons and processing operations are performed. Like the opening part of the specification, the description of the preferred embodiments, and particularly of the comparison and processing nodes and the communications between them, is drafted largely in abstract terms in accordance with the intellectual content and logical structure of the operations being performed rather than the physical or technical structure of the processing system. However, in Figures 5 and 8 the specification does show an arrangement of a high level, host computer controlling a number of lower level processors which are interconnected by a connection network. Information is exchanged between the host computer and the processors which operate in parallel. The processors are assigned to the processing nodes and perform the necessary comparisons and operations in parallel when activated. At the hearing, and in the amended claims, Mr Maury laid great stress on what he described as the programming or setting-up phase of the operation where each parallel processor is assigned to a particular one of the processing nodes, and thus to a respective predetermined function.

Mr Maury submitted that this phase in practice established a fixed network of hardware which constituted a new, technical, and hence patentable, structure.

In support of this argument, Mr Maury referred me to the decision of the European Patent Office Technical Board of Appeal in IBM/Co-ordinating cpu's T06/83 [1990] EPOR 91 - 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. IBM/Co-ordinating cpu's concerns a network of data processors connected as nodes by communications links; in a specific example the communications links connect terminals in a banking transaction system and each node has its own program and secure data files. A transaction at one node can be handled at another so that a user of a local program is able to use resources located at remote data processors without needing to know, or to write into the program, the actual location of the resources. The Appeal Board concluded that the invention was concerned with the internal workings of the processors and the transmission equipment irrespective of the nature of the data and solved a problem "which is essentially technical". They therefore allowed the application to proceed. Mr Maury argued that IBM/Co-ordinating cpu's was directly analogous to the invention in application 8815572 where there are independently operable processors set up or pre-programmed to communicate with each other in a special way independent of the data to be transferred. Thus he concluded, what was provided was not a general purpose computer when programmed to perform inference processing but a new technical structure.

Turning to application number 8815573, the specification is entitled "Inference Processing" and opens by stating that the invention relates to an inference processing system used for an expert system, and particularly to an inference processing system using a plurality of processors to carry out a parallel inference operation. It goes on to describe a programming language, Prolog, suitable for inferencing and how the language is used to infer the relationship between two individuals from a set of facts concerning family relationships. These facts are stored in tables which set out the various family relationships and are used in the search for the solutions to the goals which are set. As with the first specification, the description is in largely abstract terms. However, in Figure 4 the specification shows an arrangement of a high level, host computer controlling a number of lower level processors

which are interconnected by a connection network. The processors operate in parallel to access the tables and search for solutions, the tables being updated during the processing so that the updated versions become available to all processors requiring them. In this case also, Mr Maury laid great stress on the programming or setting-up of the system which he submitted resulted in the production of a new, technical, and hence patentable, structure.

In this respect, he referred me to the decision of the European Patent Office Technical Appeal Board in Koch & Sterzel T26/86 [1988] EPOR 72, arguing that in this case the Board held that a general purpose computer is patentable if it is programmed in such a way as to alter technically its function and thus provide a technical advance in the internal operation of the computer itself. This was applicable to the inventions claimed in the present applications which should be distinguished from the Appeal Board's decision in Siemens T158/88 [1991] OJEPO 566 in which claims to a process for displaying characters were rejected on the grounds that they did not solve a technical problem and related to no more than a computer program as such. Mr Maury argued that the tables in the present application, and the semantic network which they constitute, represent knowledge in a way which defines a novel working relationship between the processors, storage units and communications links. A new technical effect is provided by the way in which the processors are linked to each other to respond immediately and autonomously to any goal sent to them. This, Mr Maury concluded, represents a novel use for a parallel processor array which in substance amounted to a hardware network with dedicated communications links and provides a patentable technical advance.

Having read both specifications very carefully, I have been unable to find any support in either specification for the novel technical structure which Mr Maury submitted was provided and I am therefore unable to agree with his conclusions on this point. The physical arrangements shown in Figures 5 and 8 of the specification of application number 8815572 and Figure 4 of the specification of application number 8815573 show wholly conventional data processing systems of the sort found in the documents cited by the examiners during substantive examination. Such systems conventionally operate in accordance with programs which by their very nature cause the various elements of hardware in the system to co-operate together in the configuration(s) necessary to perform the required functions. This is

exactly the position with the present inventions so I can see no distinction here. In this connection however, Mr Maury stressed that an important difference between conventional, programmable systems and the present inventions was the fact that once they were set up, the arrangements of the present inventions were not varied during the subsequent inference processing. It is I think clear from the specifications however, that once set up the systems of the present inventions do not remain invariable for all time because, if they can be set up with information, they can be reset with new information. In my view this is precisely analogous with the programming and re-programming of conventional computers and I can therefore see no distinction between the present inventions and a conventional programmable computer in this respect.

Moreover, the configuration, arrangement and operation of the hardware elements of the systems of the present inventions is I think determined purely by the intellectual content of the information fed in and the tasks to be performed. I can see nothing technically novel or unusual in the present inventions about the way in which the various processors are configured and operated in parallel to perform these tasks, particularly since it is clear from the cited prior art that the concept of programming a system so that as many operations as possible are performed in parallel to increase the speed of operation is very well known.

It therefore seems to me that there is no distinction of substance between a structure set up to perform inference processing as claimed in the two specifications and a conventional general purpose parallel data processor programmed to perform such processing. Consequently, I find that in both cases the inference processing system claimed is a conventional computer running a novel program.

That being so, it follows, and I think Mr Maury accepted, that the law I must apply is as stated by Fox L J in Merrill Lynch's Application [1989] RPC at page 569 where he said :-

> "The position seems to me to be this. Genentech decides that the reasoning of Falconer J is wrong. On the other hand, it seems to me to be clear, for the reasons indicated by Dillon L J, 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. Something further is necessary. The nature of that addition is, I think, to be found in the Vicom case where it is stated: "Decisive is what technical contribution the invention makes to the known art". There must, I think, be some technical advance on the prior art in the form of a new result (eg., a substantial increase in processing speed as in Vicom)."

From this in turn it follows that, given that the inventions claimed in both the present applications are conventional computers running a novel program, they are not patentable unless there is something further, namely a technical advance on the prior art in the form of a new result. The Vicom case referred to by Fox L J is Vicom Systems Inc T208/84 [1987] EPOR 74 in which the European Patent Office Technical Board of Appeal decided that even if the idea underlying an invention may be considered to reside in a mathematical method, a claim directed to a technical process in which the method is used does not seek protection for the mathematical method as such. Although Mr Maury also referred to Vicom, it was I think to make the point that if a program carries out a technical process the exclusion of section 1(2) cannot apply. I do not need to go into this however because Aldous J has given an authoritative indication of how Fox L J's judgment is to be applied in Gale's Application [1991] RPC at page 315 where he remarked:

"... I conclude that the first task of the court is to construe the claim, as that is where the invention is defined. If the claim properly construed is drafted so as to relate to any of the matters disqualified by section 1(2) then the invention is not patentable. If however, the claim is drafted to a process or technique or product and the basis of such process or technique or product is a disqualified matter, the court should go on to consider whether the claimed invention is in fact no more than a claim to an invention for a disqualified matter. It is a question of fact to be decided in each case, but if the claimed invention is more than a claim to an invention for a disqualified matter then it qualifies as a patentable invention.

In deciding that question of fact it is always important to consider whether the claimed invention is part of a process which is to be used in providing a technical

result. If it is, then the claim cannot be said to be an invention relating to no more than one of the disqualified matters. Similarly, where a claim is directed to a product, it is important to consider whether the product claimed is a new technical product or merely an ordinary product programmed in a different way as in the latter case the claim is in reality to the program and therefore could not relate to a patentable invention."

Applying this to the present inventions requires me to construe the claims which I think clearly relate to a product, that is an inference processing system, and to a process, that is an inference processing method or a method of driving parallel processors to carry out inference processing, which are based on a computer program. The question therefore arises of whether the claims are claims to no more than claims to a computer program as such.

As I indicated above, I am unable to find any support in either specification for a novel technical structure or effect. I can see nothing technically novel or unusual about the way the various processors are configured and operated in parallel to perform the desired functions, particularly since it is clear from the cited prior art that the concept of programming a system so that as many operations as possible are performed in parallel to increase the speed of operation is very well known. The configuration, arrangement and operation of the elements of the systems of the present inventions are I think determined purely by the intellectual content of the information fed in and the tasks to be performed and the computers are therefore conventional computers operating conventionally to perform the tasks specified in the way one would expect. This conclusion is I think consistent with the decision of the Technical Board of Appeal of the European Patent Office in Siemens where the Board said:-

"2.3 The statement that technical means (eg a visual display unit) are to be used to carry out the claimed process (see point VII-I above) is not alone sufficient to render patentable within the meaning of Article 52(1) EPC a process which in essence constitutes a computer program as such. A computer program is not considered part of a technical operating procedure if the claimed teaching merely modifies the data and produces no effects beyond information processing.

2.4 In contrast to the point at issue in decision T26/86 (Koch and Sterzel OJEPO 1988, 19), the claimed process does not constitute an invention consisting of a mix of technical and non-technical elements. In the former case, the data processed by means of the non-technical part of the program were the operating parameters of a device, and, once processed, influenced the physical/technical functioning of the device by altering X-ray tube voltages and currents and their anode rotation speeds and focal spot sizes.

In the present case, the data to be processed represents characters, and once processed, serve only to make those characters more readily comprehensible to the viewer without affecting the (technical) means of displaying them."

In my view, the inventions of both the present applications merely process data as in Siemens and produce no technical effects or advances of the sort which were found in Koch & Sterzel and in IBM/Co-ordinating cpu's. Consequently, I conclude that the claims in both applications amount to no more than claims to computer programs as such and are therefore excluded from patentability by section 1(2)(c).

In the event that I am wrong about this, I need to consider the examiners' second argument that the inventions claimed in both applications amount to no more than a scheme, rule or method for performing a mental act and are therefore excluded from patentability by section 1(2)(c). This argument follows from Fox L J's judgment in Merrill Lynch when he stated, as I have already indicated above, that for a conventional computer containing a novel program to be patentable there must be some technical advance on the prior art. Fox L J then went on to say :-

"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 doing 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. Claim 1, after all, is directed to "a data processing system for making a trading market". That is simply a method of doing business. 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 end result itself is a prohibited item under section 1(2). In the present case it is such a prohibited item."

Thus, regardless of whether or not there is a technical advance in the form of a new result, a conventional computer running a novel program is not patentable if the result produced is an item excluded by section 1(2). In both the present applications, I have found that the claims relate to conventional computers running programs. These programs perform inference processing which is, the examiners allege, a mental act excluded from patentability by section 1(2). Although drawing inferences is clearly a mental act, Mr Maury contested the examiners' view on the basis that Parliament intended that only human mental activity as such should be excluded from patentability and not analogous, machine implemented processes which the human brain would never follow. I need not go into Mr Maury's argument on this point however because as I indicated at the hearing, and as Mr Maury accepted, I would regard myself as bound to find against him by the judgment of Aldous J in the Wang case unless the present cases can be distinguished on the facts. As I indicated above, it is my view that they can not. Therefore, I am bound by Aldous J's judgment in Wang in which he said :-

"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 a method for performing a mental act. The method remains a method 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."

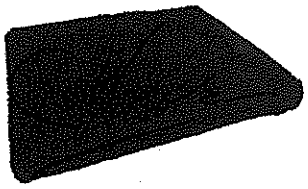
This indicates quite clearly that whether the steps of a method are performed by a computer, or are the same as or different from those which would normally have been performed by a human being, is not relevant when deciding whether a claim amounts to a mental act. That being so, in my view it is clearly the case that the inference processing systems claimed in both applications perform a mental act and it therefore follows that the claims of both applications are excluded from patentability by section 1(2) as a scheme, rule or method for performing a mental act.

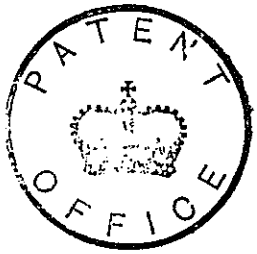
In summary therefore, I support the examiners' objections that the inventions claimed in

applications 8815572 and 8815573 are excluded from patentability by section 1(1)(d) and 1(2)(c) of the Act. Moreover, I do not believe that it would be possible to draft claims that would not be excluded. Since both applications have now gone beyond the period allowed for putting them in order for grant as extended under Rule 110(3), it follows from section 20(1) that each application shall be treated as having been refused by the comptroller at the end of that period, that is on 31 January 1992 for both applications.

Any appeal from this decision should be lodged within a period of six weeks from the date of the decision as stated below.

Dated the 19 day of FEBRUARY 1992





D M HASELDEN

Principal Examiner acting for the Comptroller.

THE PATENT OFFICE