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BASIC PRINCIPLES RELEVANT TO COMPUTER RELATED OR BUSINESS METHOD INVENTIONS

Subject matter that by itself is unpatentable subject matter

1. For subject matter to fall within the definition of an "art" or "process" within the meaning of the definition of invention in s.2 of the Patent Act, it must include an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition. This would for example thus exclude from patentable subject matter a method of teaching or a method of describing and laying out parcels of land in a plan of subdivision of a greater tract of land. In applying the principle set out in the first sentence of this paragraph, a liberal interpretation is given to the words "change of character or of condition". They would for example include within their meaning the electronic changes that occur in a computer when being installed with or when running a computer program. (Claims to a method or use are only patentable if the method or use falls within the definition of an art or process.)

2. Subject matter of an abstract or intellectual character is not patentable subject. This excludes a number of types of subject matter from patentability including literary, dramatic, musical and artistic works, mere presentations of information, schemes, rules ~~or~~ methods of doing business, performing purely mental acts ~~or~~ playing games. The reasons why these different types of subject matter are not patentable are not necessarily identical but include being just a disembodied idea, the lack of a practical application, being unrelated to trade, industry or commerce or being a mere scientific principle or abstract theorem contrary to s.27(8) of the Patent Act.

3. A method consisting only of making certain calculations according to certain formula is (even if it results in useful information) excluded from patentability by s.27(8)of the Patent Act. It is also unpatentable subject matter because it does not include an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition.

4. An apparatus claim consisting exclusively of means-plus-functions statements for carrying out a method referred to in paragraph 3 is excluded from patentability by s.27(8) of the Patent Act. Such an apparatus claim is considered to be nothing more than a "disguised" method claim and such claims are not patentable if the method itself is not patentable.

5. Computer programs *per se* are not patentable subject matter. They are in substance "a mere scientific principle or abstract theorem" and thus are excluded by s.27(8) of the Patent Act. They are also unpatentable subject matter because by themselves they consist

of merely mental operations or processes and do not include an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition.

6. For an art or process to be patentable, it must have a practical application and must produce a result that is essentially economic and that is in relation to trade, industry or commerce.

7. Professional skills *per se* and methods of providing a service *per se* are not patentable subject matter since by themselves they do not produce a result in relation to trade, commerce or industry.

8. The term "professional skills" is considered to have a broad meaning and would for example include any of the following:
   a. medical treatment or surgery (the skill of a doctor or surgeon);
   b. cross-examination or advocacy (the skill of a barrister);
   c. describing and laying out parcels of land in a plan of subdivision of a greater tract of land (the skill of a solicitor, conveyancer, planning consultant, or surveyor);
   d. allocating investment funds in an optimized manner (the skill of a financial advisor); and
   e. laying out houses in a row of houses (the skill of an architect).

9. It can sometimes be difficult to distinguish between, on the one hand, professional skills and methods of providing a service *per se* which do not produce a result in relation to trade, commerce or industry and, on the other hand, methods of carrying out an activity that do produce such a result. The Office considers that each of the following methods produces a result in relation to trade, industry or commerce:
   a. a method of operation of an inventive machine;
   b. a method of use for an inventive manufacture/composition of matter;
   c. a method of operating/using a known machine/manufacture/composition of matter for an inventive non-analogous use.; and
   d. a diagnostic method.

   If the method is not any of the above, then, in assessing whether a method produces a result in relation to trade, commerce or industry, it is often helpful to consider whether the method is closer to:
   1. a service (or a transaction/exchange between multiple entities) for which someone (e.g. a professional) would be hired to perform (or which the method's executor would perform for themselves) [such services being considered to **not** produce a result in relation to trade, commerce or industry], or
   2. a method for producing/building/constructing a vendible product, or of altering something to make a vendible product (that is functionally different from any vendible product that it may have been originally) [such methods being considered to produce a result in relation to trade, commerce or industry]. In this context, the term "vendible product" is intended to have a very broad meaning encompassing such things as land, structures, parts of structures and chemicals.

Claims containing both patentable and unpatentable subject matter

10. The mere presence in a claim of subject matter that is by itself unpatentable does not immediately exclude the subject matter of the claim in its totality from patentability. Thus a claim in its totality may be considered to relate to patentable subject matter even though it includes within its scope a mathematical formula, a computer program or a professional skill.

11. Where a claim consists of subject matter that in its totality is patentable subject matter but includes within its scope subject matter that by itself would be unpatentable subject matter (such as a mathematical formula, a computer program or a professional skill), the requirements of s.28.3 of the Patent Act will not be satisfied if the only part of the subject matter that is non-obvious lies in an aspect of the subject matter of a claim that constitutes unpatentable subject matter. In other words, the non-obvious part of the invention cannot be found only in an aspect of the subject matter of a claim that constitutes unpatentable subject matter.

12. Subject matter that by itself is unpatentable subject matter may if combined with other patentable subject matter in an integrated manner become an integral and inseparable part of a combination that in its totality constitutes patentable subject matter. In such a case the non-obvious part of the invention can be found in any aspect of the combination. For there to be integration in the sense meant here, there must be some cooperation or interaction that produces some common or unitary result, action, advantage or use. As examples:
    a. Integration does not exist in a method of merely running a mathematical formula or a computer program on a computer since there is no integral relationship between the formula or program and the functioning of the method.
    b. Integration exists in a method of running a computer program on a computer if the purpose of the subject matter of the claim as a whole is to improve the efficiency of the computer's use of its resources and the program contributes to this improved efficiency.
    c. Integration does not exist in a claim to a computer readable media containing merely subject matter of an abstract or intellectual character such as music or textual information.
    d. Integration does exist in a computer readable media if there is an integral relationship between the subject matter of an abstract or intellectual character and the media so that the media, when in use, functions in a new and innovative manner because of the presence of that subject matter.

Reproducibility

13. Subject matter that is not reproducible by a person skilled in the art is not patentable since it is not useful. A claim will thus not be patentable if it includes method steps or

professional skills that involve an interpretative or judgmental aspect or are dependent upon the intelligence and reasoning of the human mind.

Algorithms - Why is proper integration needed?

The non-obvious part of the invention cannot be found only in an aspect of the subject matter of a claim that constitutes unpatentable subject matter. *[This statement reflects examination practice]*. An algorithm is a mere scientific principle or abstract theorem, objectionable under S27(8).

Proper integration of a non-obvious portion of non-statutory subject matter with statutory subject matter can render the claim as a whole statutory, if the following guidelines for proper integration are met.

Integration defined: "The Integration"

Description: The non-statutory subject matter acts in combination or in cooperation with statutory hardware (system components, devices, computers, CPUs, processors, input devices, output devices, communication devices, storage devices) ~~or statutory software~~ to produce an unexpected desired result or action or advantage or useful signal.

Claims: Recites at least some combination or cooperation with statutory hardware ~~or statutory software~~ which typically involves the exchange and/or generation of signals (or equivalent) to inevitably produce the described unexpected desired result or action or advantage or useful signal.

Implication: What is the invention?

What this would mean is that for a new or improved algorithm, the new or improved portion of the algorithm is still non-statutory under S27(8). The inventive step in the algorithm which clears the prior art, is still not patentable because the algorithmic subject matter is non-statutory.

The invention (the ingenuity as recognized by the office) is the new or improved algorithm in combination with "The Integration" as defined above so that it will inevitably lead to, or culminate in, the described unexpected desired result or action or advantage or useful signal.

The claims must claim the invention. The invention can never be said to be the Algorithm by itself because this violates S27(8), even if it is non-obvious.

This works because the next improvement in Algorithm B which yields an unexpected desired result or action or advantage, is also accompanied by a change or alteration in "The Integration", even if the integration step is obvious to implement or well known. The invention, which must be claimed, is the improvement in Algorithm B in combination with the altered "Integration" which must also inevitably lead to an unexpected desired result or action or advantage or useful signal.

If the inventive step in the Algorithm yields an unexpected desired result or action or advantage or useful signal, but without "The Integration", it remains non-statutory.