The Future of the European Requirement for an Invention
(and with it of software, business method and biotech patents)

University of Oxford, 13 May 2010

Justine Pila


- Patents reward inventions (Lundbeck).

  What is an invention?
  How are subject matter conceived as inventions?

- The requirement for an invention:
  1. Determines what is inherently patentable;
  2. Restricts the protection conferred by patents…

  How well does the EPC requirement perform these functions?
1. The EPC requirement for an invention

Art 52(1): Patents shall be granted for any inventions, in all fields of technology, that are new, inventive and susceptible of industrial application.

Art 52(2): The following in particular shall not be regarded as inventions within the meaning of paragraph 1, to the extent to which a patent or application relates to it “as such” (Art 52(3)):

(a) discoveries, scientific theories and mathematical methods;
(b) aesthetic creations;
(c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
(d) presentations of information.

EPO (Duns):

1. De minimis view of the requirement for an invention:
   • a requirement for a technical feature;
   • “essentially separate and independent of” the other Art 52(1) requirements.
2. Cf only tech features count for novelty / inventive step.

Contradictory and produces confusion; eg, Amazon 1-click method decision
Lord Hoffmann (Biogen, Merrell, Kirin-Amgen, IPSANZ)

1. *De minimis* view of the requirement for an invention:
   • “almost invariably academic”;
   • excludes information / behaviour only (recall the EPO).

2. Cf subject matter:
   • patentable / protected “under the description” of the invention;
   • Conceived having regard to Art 52(2) / the “social contract” effected by a patent (*contra* the EPO).

Laddie J (Fujitsu):

Art 52(2) categories = independent policy exclusions (*contra* Lord Hoffmann and the EPO).

Mr Prescott QC (CFPH):

1. Art 52(2) a spectrum of soft and hard exclusions (recall Laddie J);
2. Subject matter patentable / protected “under the description ‘invention’” (recall Lord Hoffmann).

Pumfrey J (Halliburton):

1. Art 52(2) categories “a heterogeneous collection” (recall Laddie J); (c) & (d) lack a clear policy basis.
2. An invention is “tethered” to a specific industrial activity and directed to advancing the technical arts…
3. Claims restricted to their tech field (recall the EPO).
Jacob LJ *(Aerotel)*:
1. EBA guidance needed.
2. Art 52(2) requires a contribution to an art of a tech nature, and not falling solely within an excluded category.

Lord Neuberger *(Symbian)*
1. EBA guidance needed.
2. Art 52(2) requires a contribution that “can[] be characterised as ‘technical’”.

Since *Duns / Symbian*:
- litigation involving Art 52(2) continues.
- the law remains depressingly uncertain (Lewison J, *AT&T*).

---

### 2. The Future of the EPC requirement for an invention

- Definition must reflect the role of the reqt *(Merrell Dow)*.

- The invention is that for which a patent is granted *(Lundbeck)*. Its role is to help mediate the contract effected by a patent *(Kirin-Amgen)*.

How well does the EPC requirement perform this role?
Art 52(2): subject matter “as such” not “inventions”.

EPO / Lord Hoffmann approach is difficult to accept…

- Aesthetic creations not information. Methods are forms of human behaviour. Inventions are information.

- Software has technical character. Excluded methods may involve “practical scientific application”.

…and is really an argument for a de minimis approach.

Laddie J / Mr Prescott QC view compelling, but what are the exclusions’ policy rationales (Pumfrey J / Jacob LJ)?

- Even the reason for excluding aesthetic creations is unclear: the © rationale is not convincing…

- To make sense of Art 52(2), need an independent idea of what makes something suitable for a patent.

- Little help from the EPC, so turn to history.
The “invention” as historically defined (in the UK)

- Subject matter of mechanical or chemical utility directed to advancing the industrial arts.

- Early 20th C: restricted to subject matter directed to advancing the manufacturing arts. Excluded:
  - Business methods and other “schemes”;
  - Subject matter distinguished by its literary / artistic content;
  - Methods of treating / producing ephemeral subject matter (e.g., light);
  - Methods of treating or producing biological matter? Methods of medical treatment?


The “invention” as actually intended by the EPC drafters

- Art 52(2) introduced to promote harmonization via consistency with PCT Rules 67.1 / 39.1.

- No clear understanding of Art 52(2), and uncertainty on:
  1. The relationship between the invention and technical character / technical progress / industrial character / public policy;
  2. The inherent patentability of computer programs, methods of medical treatment, and plant & animal varieties.

- Only the status of computer programs was resolved…
The EPC drafters understood that:

1. A new European jurisprudence would be developed.
2. Inventions would be drawn from the technological arts — *contra*, that an invention would be any subject matter having “technical character”;
3. The central aim of the system was industrial growth;
4. Art 52(2) was the only inherent patentability exclusion — *contra*, that all subject matter beyond its scope were “inventions”.

Sufficient basis for presuming an intent (*Oncomouse*)…

The “invention” as it ought to (and as the drafters presumptively intended that it?) be defined

…Arts 52(2) & (3) support (*contra*, resolve to) a positive definition of the invention as:

*a purposive human method of working on the physical world to produce an objectively discernible (material) result directed to advancing the industrial arts.*
close to NRDC / Rote Taube but tethered to the industrial arts…

…cf, the practical, civil, political, fine, administrative or professional arts.

“Industry” defined –
• OED: “a particular form or branch of productive labour; a trade or manufacture”.
• EPO/UK: includes “all manufacturing, extracting and processing activities of enterprises that are carried out continuously, independently and [whether or not] for commercial gain” (Eli Lilly).

Increases difficult definitional / methodological issues.

Restricts patentability, eg by:

– excluding methods of cosmetic treatment, teaching, communication, navigation, vehicle operation, institutional governance, marketing, selling, administration, etc, regardless of tech character.

– requiring that subject matter be conceived having regard to things other than their tech features.
➢ Is justified on the basis of:

1. Its normative value (furthers the aims of the system);
2. Its explanatory value (makes sense of jurisprudence);
3. Its improvement of the system’s coherence;
4. Its support of Europeanization, and a law informed by the history and philosophy of technology and science.

➢ Consistent with 2., it is also not without EPO support.

---

1. The definition has normative value, in

…furthers the central aim of the system (to support industrial growth). See:

• Paris Convention;
• Analytical framework of the EPC drafters’ ancestors;
• Premise of the Munich Conference debates (eg, chemical product patents);
• UK / EPO jurisprudence.
2. *The definition has explanatory value, in explaining*

– pre-1977 national exclusions;
– The European Committee of Experts on Patents views;
– many of the Article 52(2) exclusions, and potentially all other threshold (Art 53, IR) exclusions;
– contemporary TBA jurisprudence (*AgrEvo, Duns, Amazon*).

3. *The definition improves the system’s coherence, by…*

…anchoring the system to its social function, and reducing the risk of doctrinal fragmentation and disproportionate protection.
4. The definition is informed by the history and philosophy of technology and science... eg, it

- reflects a philosophical / historical view of inventions;
- conceives inventions (in part) as technology, but replaces the EPO view of “technology” with one based on design / technē;
- accepts (as European states did in the 1950s) that “technology” is too opaque and elastic to be useful / appropriate;
- classifies subject matter wrt social function in addition to its parent science / technological field;
- supports the recognition of inventions as neither good nor bad, but equally not neutral.

... and supports (an appropriate model of) Europeanization... eg, it

- readjusts the fact / law content of the requirement, and limits the scope for unprincipled / inscrutable decision making;
- accommodates European patent traditions, and the European Committee of Experts’ views;
- anchors the system to its original purpose, and supports its non-discriminatory operation;
- supports recognition of the invention’s ethical content;
- supports principled and transparent divergent decision making, including on non-factual (legal) grounds.

Plus, closes the gap with US law (In re Bilski; AMP v USPTO)...
It is also not without contemporary EPO support... eg, it

– requires:
  • a human action on the physical world (*Sternheimer*);
  • a subject matter directed to advancing an art (“contribution” cases);
  • that subject matter be conceived wrt the constitutive properties of inventions (*AgrEvo, Duns, Amazon*);
– reflects a concern with ensuring the proportionality of patent protection having regard to the inventor’s contribution to the art (*Exxon*).
3. The categorization / conception of subject matter as inventions

- Informed by the constitutive properties of inventions:
  - The sequence of steps comprising its method;
  - The means by which the method achieves its result;
  - The advance on the art it is directed to make.

Computer programs as inventions

- Threshold exclusion due to Art 52(2)(c), not the nature of computer programs *per se*.

- Availability of copyright not a justification for 52(2)(c).

- In principle, programs more suited to patents than copyright…
### Biotech subject matter as inventions

- No threshold exclusion exists, and none is justified.
- Cf for certain categories, eg isolated genes (*contra* IR Rule 29(2)?), plants & animals not covered by Art 53(b).
- Important issue is the proper conception of biotech subject matter as inventions… especially isolated / other products…

### Business methods as inventions

- *Amazon* result correct, but on inherent patentability (*contra* inventive step) grounds.
Conclusion

- If inventions are the contribution for which a patent is granted, policy ought to inform their conception.

- In the UK it has (Dann’s Patent, Biogen, Kirin-Amgen).

- The EPO de minimis approach creates a tension between expansive conceptions of inherent patentability and the requirement for proportionate grants.

- To resolve this, we need a more meaningful / robust definition of the “invention” than currently exists.