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Introduction

The separate proposal for a Universal Declaration of Patent Responsibilities (2007) is designed to focus debate on those responsibilities for use of intellectual property incumbent on owners of such property and on those to whom use is granted in some way. This contrasts with current practice in which any such responsibility is left to others, notably regulatory authorities -- if they have been envisaged and irrespective of whether they have an appropriate mandate and adequate means of imposing constraints on use of the property.

The device used in formulating that draft proposal is the slight adaptation of the Universal Declaration of Human Responsibilities, proposed by the InterAction Council in 1997 (as amended in 1998) for consideration by the United Nations as a complement to the Universal Declaration of Human Rights (1948). No action has since been taken on the original proposal (available in many languages). In a reaction to it, the UN approved a Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms (53/144, 9 December 1998).

This focus on patent rights follows from an analogous draft proposal for a Universal Declaration of Responsibilities of Human Intercourse (2007), derived in the same manner -- and with which some relevant commentary is also associated. Just as that proposal benefitted from both a specific and a general connotation of "human intercourse", that on the Universal Declaration of Patent Responsibilities also benefits from multiple connotations highlighted by the possibility of more specific variants:

- Universal Declaration of Responsibilities for Intellectual Property (namely technical and otherwise)
- Universal Declaration of Responsibilities for Technical Patents (namely specifically technology-related)
- Universal Declaration of Evident Responsibilities (namely rendered explicit in some way)

The proposed Universal Declaration of Patent Responsibilities (2007) necessarily treats some issues generically where more specific reference might be desirable in the light of the following. The focus is however to challenge any assumptions of an unquestionable right to "produce" without consideration of the containment capacity of the system or any consequent destabilization that proves necessary.

Inadequately foreseen consequences

Typically the importance of these is denied, deemed acceptable, or considered to be the responsibility of society, possibly as articulated
through regulatory authorities or through the ethical standards of the relevant industry. However, in the light of the precautionary principle, there is a case for those relying on such arguments to invest in a "Reassurance Fund" to compensate for those who may be faced with consequences such as the following:

- **Operational consequences**: These notably include:
  - immediate negative environmental costs
  - unforeseen negative environmental costs
  - opportunity costs as a result of marginalizing the possibility of alternative solutions

- **Downstream consequences**: These notably include:
  - unforeseen costs of decommissioning, as highlighted in the case of nuclear reactors
  - unforeseen costs of withdrawal or repair as a consequence of poor design or unforeseen hazards

The challenges are usefully presented by Nassim Nicholas Taleb (*The Black Swan: the impact of the highly improbable*, 2007).

"Patent responsibility"?

The notion of patent responsibility, notably in the case of universities (as for example in the *University of California Patent Policy*, 1997) is typically restricted to legal issues relating to:

- responsibility for ensuring maximum protection and proftability for inventions, without taking any account whatsoever of the ethical, humanitarian or environmental consequences
- identifying which party is responsible for filing and prosecuting joint patent applications

There is typically no question, again notably in the case of patent policies of universities, of any ethical or other constraint on the possibility of protecting intellectual property and benefiting financially therefrom.

Any such question of constraint is (implicitly) assumed to be handled within the framework of regulation by authorities -- totally independent of any responsibility of the owner of the intellectual property.

Curiously, in contrast to such unconstrained patenting on the part of academic research, it would appear that it is the concept of corporate social responsibility in the case of for-profit corporations that is exerting some degree of constraint on their use of intellectual property in the form of patented technology. Thus L L Brennan and V E Johnson (*Technology management for corporate social responsibility. Technology and Society Magazine, 23, 2004*) state that:

Expectations of corporations are higher than ever. Investors and other stakeholders consider companies in terms of the "triple bottom line", reflecting financial performance, environmental practices, and corporate social responsibility (CSR). Given the role of top managers in setting the ethical tone and strategic agenda of their corporations - and the role of technology in strategy - can technology management achieve both competitive performance and social responsibility, i.e., "strategic responsibility"? This potential integration is considered in the technology management of eight Internet-oriented companies, specifically for practices integrating the fulfillment of corporate social responsibilities with technology-driven strategies for keeping products competitive, providing the basis for new products, and changing operational conventions.

The effectiveness of this claimed constraining process is however questionable -- however significant it may be in certain sectors under certain circumstances.

**Ethical responsibility and ethical patenting**

Curiously the literature on "ethical patenting" tends to be restricted to issues relating to the more controversial questions regarding bioethics and patenting of life that are associated with the development of biotechnology. The World Intellectual Property Organization (WIPO) has indeed recognized ethical concerns relating to biotechnology (*Biotechnological Patents - The Tension between IP Protection and Other Goals (Bio-Diversity, Ethical Concerns, Fairness); Biotechnology: studies and articles*). However it would appear that WIPO, consistent with its narrow legal focus on such matters, confines itself to identifying other parties with ethical concerns relating to patenting (*Professional Societies' Codes and Statements of Ethics*) -- notably filed under "folklore/creative heritage/codes"

As an international authority on bioethics and the related issues of patenting, it is unfortunate that the arguments articulated by Darryl R. J. Macer (*Ethical issues in patenting scientific research*. In: *Proceedings of the International Conference of the Council of Europe on Ethical Issues Arising From The Application of Biotechnology. Council of Europe, Volume II, 2000*) are not considered in relation to patenting of intellectual property in general rather than confining such concerns to biotechnology.

Macer suggests the following principles in relation to patenting scientific research, which arguably might be applied to the production of any form of intellectual property:

- is the principle of beneficence, or loving good, served more by having research than by not having research?
- do we encourage more research into more beneficial areas of science by the incentive system of patents than we would by not having patents?
- is justice served by systems of intellectual property protection?
- what are the tolerable limits of doing harm by research subject, e.g. animals including humans?
- what are the tolerable limits of doing harm by rigid enforcement of patents if price becomes a barrier to use of a product by
persons in need?

- ethically can anyone own a product of their mind, a product of nature, a product of a designed process, a discovery or even an invention?
- does it make any difference whether the product or process involves living organisms or rocks?
- should we expect the practical law to share the same goals as that of ethics, namely can we expect ideal ethical laws or some compromise?

Some of the above points are indeed raised and addressed in relation to copyright, even if they are not given due consideration in the case of patenting technology. This is notably the case in the debate over "copyleft", "open source" and alternative forms of copyright (Creative Commons, GNU ***).

Macer identifies some of the ethical arguments that are commonly expressed in support of patenting of biotechnology inventions as follows (again equally surely applicable to other forms of intellectual property):

- patent law regulates inventiveness, not commercial uses of inventions
- patenting promises useful consequences (e.g. new products/research)
- other countries support patents, so our country needs to if the biotechnology industry is to compete
- if patenting is not permitted, useful information will become trade secrets
- patenting rewards innovation

The arguments presented against patenting, as identified by Macer, include:

- metaphysical concerns about promoting a materialistic conception of life
- patenting promotes inappropriate human control over information that is common heritage
- some countries do not permit similar patents
- patenting produces excessive burdens on medicine (increased costs to consumers, payment of royalties for succeeding generations)
- increased use of animals means more animal research which may be against animal welfare.

Desirable extension of the scope of "patent responsibility"

If a discovery is patented with the intent of deriving profit from it, then profitable use (of any licensing) of it for purposes deemed harmful implies a degree of responsibility on the owner of that property, or the parties in the chain of responsibility ensuring the protection of that property (presumably irrespective of any cost to society).

In considering the following it is appropriate to note that any notion of "patent misuse" typically relates only to charges of "patent infringement" -- namely only to the harm caused to the owner of the intellectual property not to any other form of harm.

The chain of responsibility for patent use might therefore include:

- promotion of research deemed potentially harmful (a possible legal parallel might be "incitement" to racial discrimination or genocide)
- sponsoring or funding research (recognized as problematic in certain research on animals or humans)
- undertaking research (again recognized as problematic in certain research on animals, but notably on humans, especially when done without their consent or under conditions of duress, as with prisoners, military personnel, or those incapable of comprehending the risks)
- patentable discovery defining a degree of ownership
- patent registering authority which:
  - guarantees a form of protection to the intellectual property, without consideration of:
    - its harmful potential (thereby becoming complicit to a degree in any subsequent harm caused)
    - any need protection of those who may suffer from its use
    - the existence of any necessary regulatory authority, or consultation with such an authority if it exists
  - remains concerned with counterfeit potential but not with misuse
- dissemination of related know-how (as with the issue of the availability of weapon-making instructions on the web)
- licensing use of the patented technology, possibly with reference to:
  - known possibilities of harmful consequences of (mis)use of the technology
  - without contractual constraint on harmful use of the product
  - performance obligations incumbent on licensors [more]
- manufacture of products dependent on the patented technology (recognizing the ambiguity of situations where the manufacturer claims no responsibility for the harm a product may cause, as with the small arms industry)
- sale and/or franchising of products or services dependent on that intellectual property (again recognizing the ambiguity of situations where harmful products may be sold without the seller incurring responsibility for their subsequent misuse, or for informing the purchaser of such possible harm)
- use of the patented product (without recognizing any responsibility for how it might be misused or cause harm)

According to the legislation, those in this chain might then be variously the subject of litigation in the event of harmful use of the product.

Under the circumstances, in a period when corporations are variously accused of "blue washing" or "green washing" themselves in order to claim "social responsibility", WIPO has a rather unfortunate acronym -- given its complicity in a process of effectively absolving owners of intellectual property of any responsibilities other than those related to correct filing procedures.
Given WIPO's checklist of ethical codes of a highly selective group of professional bodies, it is interesting to raise the question of the codes of ethics (and practice) considered appropriate by other registries. One example might be that of the relatively simple challenge of registering web domains according to the rules of ICANN (Internet Corporation for Assigned Names and Numbers). But of particular interest is debate about a "relevant" code of ethics for WIPO. This has been notably described in a report by the Electronic Frontier Foundation (WIPO: Trying to Bury the Development Agenda, 2005):

The second meeting on the WIPO Development Agenda is now finished, and the opponents of reform have made their strategy clear: tie-up the meeting in procedural posturing to forestall substantive debate on the real issues. Even as the Friends of Development tried to discuss unsaillable reforms like an ethics code for WIPO, the proceedings kept getting sidetracked by countries that wanted to cut off debate.

As input to the process at that time a working document was provided by Carolyn Deere (Elements for a Code of Ethics for Providers of IP Technical Cooperation, ICTSD Dialogue on Technical Cooperation for IP Policy in Developing Countries Geneva, July 2005).

Following an active lobbying process considerable progress was made in 2007 in formulating a WIPO Development Agenda -- as reported by IP Justice (an international civil liberties organization promoting balanced intellectual property laws and free expression). This did not not however result in any revision to the "existing" Code of Ethics of WIPO -- focused on "neutrality and accountability" from a purely legal, civil service perspective (and which is not readily accessible from its website).

It should also be noted that associating any revision of the WIPO Code of Ethics purely to a "development agenda" in no way takes account of forms of harm which might readily be framed as bearing no relation to development -- as illustrated by the decades long turf war between UNDP and UNEP, for example.

**Patenting strategies and avoidance of responsibility**

The concept of a "patenting strategy" is central to determining how to frame a patent and to ensure that is is adequately protected and responsibly filed. However any notion of responsibility does not include concerns that might be highlighted in terms of ethical patenting. The current determination of a patenting strategy is clarified by the services offered by Technology and Patent Research (Types of Searches, 1995-2007) whereby strategically advantageous "gaps" or "loopholes" are detected

- state-of-the-art
- patentability, novelty
- invalidity, opposition
- infringement, freedom-to-operate, right-to-use, domination
- patent watch
- technology update
- non-patent literature reference
- query; biomedical information
- inventor, author or assignee
- legal status
- patent family
- cited or citing references
- collections
- patent map
- scientific business

It would indeed appear that any "gaps" that may be detected are not constrained by issues of harmfulness or hazard.

As noted by John A. Rafter, Jr. (Ongoing Patenting Strategies,The National Law Journal, 14 July 1997-2006), in recent years, inventors and corporations have found it increasingly difficult to protect their inventions via patents. Competitors employing their own patent attorneys often can design around even a well-written patent. He considers it essential that inventors and corporations adopt continuing strategies for patents, not only before but also after the patent has been granted. Revised application may be made to broaden the claims or to narrow them to ensure stronger protection in the light of new information on related patents by competing technology.

Clearly if patents can be circumvented in a technical sense, they can also be designed around in terms of consideration of ethics and harm.

**Abusive patenting strategies**

- Patenting of traditional (indigenous) knowledge of plants has long been a focus for vigorous debate which has tended to distract from other potential forms of abuse
- There is recognition that patents may be registered primarily in order to either block development of potentially competing technologies, or as a means of entrapping future developers:.
  - "Patent squatting" can be deliberately used to stifle innovation through unscrupulous patent holders who apply for or purchase a patent with no intention of developing the underlying idea into a product. This is done in anticipation of an unsuspecting party subsequently investing in a similar idea -- allowing the patent holder then to blackmail that business. By not actually producing any product, they cannot be sued for patent infringement.
  - Major corporations deliberately "put up barriers" to generic products by patenting alternative formulations, analogs, and methods of use to "raise the stakes" for generic producers.
  - Patenting virtually identical versions of a product, as with isomers of a chemical product already under patent, thereby legally formulating around a patent, essentially by doing nothing more than copying the existing patent.
  - There is considerable suspicion that patents are being used to block development of low cost alternatives to current uses of energy.
- It is recognized that patents may be registered (during defence-related research and development) to block development of products for (national) security reasons. Examples may include cryptography-related developments.
- Given the cost and delay in registering patents, and the delay in responding to possible patent infringements in the courts (possibly in other legal jurisdictions), it is clearly feasible to use such delays and associated legal costs to obstruct use of intellectual
There is clearly a case for giving active and overriding consideration to Copyright and Neighboring Rights respect to intellectual property. Just as principles of exception apply to ownership of tangible property, so too do principles of exception relating to use of intellectual property.

More curiously, is the fact that many of these principles are increasingly applied to virtual real estate and to other forms of property in cyberspace. Whilst WIPO has focused on the first of these, it is unclear that it has identified the various forms of potentially abusive patenting strategies.

**Crimes against humanity**

An interesting question is the degree to which it might be argued that patenting is used to enable "crimes against humanity". The legal status of "exceptions" and "limits" is complex (cf Pierre Sirinelli, Exceptions and Limits to Copyright and Neighboring Rights, 1999, WCT-WPPT/IMP/1) and perhaps deliberately so.

There is a curious contrast between the responsibilities reflected in legislation regarding ownership and use of tangible (non-intellectual) property:

- buildings: either owners or tenants may be required to take due care of the building, whether from a structural, fire-hazard, or safety perspective. This may extend to issues of hygiene, to provision of appropriate utilities, and to the aesthetic aspect of the building.
- land: again owners or tenants may have specific obligations regarding land care and use. This may notably involve disposal of waste, clearing fire-hazardous growth and ensuring access to neighbouring properties.
- vehicles: owners and renters may have specific obligations regarding the mechanical condition of the vehicle; drivers of the vehicle may be subject to other constraints (driving test, driving safely, responsibility for harm to others, etc). There is increasing (legislative) pressure on manufacturers and owners to respond to environmental and energy concerns.
- ownership and use of potentially harmful devices: legislative measures restrict use of such devices, whether by prohibition (eg certain drugs), licensing (eg firearms), authorization (eg pharmaceutical prescriptions), or age-related restrictions (eg purchase of alcohol)
- labelling: products may be required to be clearly labelled, notably to highlight hazardous content and appropriate safeguards; this may be extended to cover issues relating to provenance, as promoted by winemakers (appellation contrôlée), fair trade and bio/organic product marketing.

Curiously although emphasis is placed on the commonality between tangible and intellectual "property", it would appear that no systematic consideration is given to application to intellectual property of the responsibilities attached to ownership and use of tangible property.

More curiously, is the fact that many of these principles are increasingly applied to virtual real estate and to other forms of property in cyberspace.

**Principles of exception relating to use of intellectual property**

Just as principles of exception apply to ownership of tangible property, it might be expected that such principles should apply with respect to intellectual property. The legal status of "exceptions" and "limits" is complex (cf Pierre Sirinelli, Exceptions and Limits to Copyright and Neighboring Rights, 1999, WCT-WPPT/IMP/1) and perhaps deliberately so.

There is clearly a case for giving active and overriding consideration to development of provisions for exceptions in relation to:

- development (as discussed earlier)
- global security, beyond the focus on development, in relation to such issues of life-threatening depletion of resources, the supply of food, and destruction of ecosystems on which the survival of humanity is dependent -- as would readily be argued in relation to national security priority claims on access to intellectual property (by analogy to claims on physical property)
- emergency situations (in contrast with the longer term issues of global security) where there is urgent need for use of intellectual property to save lives
- "non-commercial use" is a well-developed exception in relation to copyright, but perhaps inadequately developed in relation to other forms of intellectual property, especially patents
- "educational use", is a form of "non-commercial use" to which the same remark applies
The general point is the need to develop a framework for the responsible appropriation of intellectual property "in the interests of humanity" and the conditions under which such use should supercede all other claims. Clearly this requires very careful attention to the manner in which any such provisions may be abused and what action to take in that event.

Of special interest is the hypothetical possibility of an innovation, for which appropriate intellectual property protection could be obtained, which was so vital to the future of humanity that it could be used to hold the world to ransom in some way -- an immortality drug, etc. (what is termed a "killer app" in the software world).

**Challenging cases -- potentially abusive patenting frontiers**

The complicity of the patenting process in facilitating abuse may be usefully highlighted by the following extreme, and often well-publicized, cases:

- protecting intellectual property as (partly) derived from:
  - abusive experimentation on humans
  - torture
  - invasive research on vulnerable (traditional) communities
- protecting intellectual property obtained by subterfuge from indigenous knowledge systems
- patenting intangibles:
  - "look and feel" (as with software interfaces)
  - skylines (as in the case of New York)
- "coping strategies": case studies could be usefully elaborated on various hypothetical innovations, susceptible to intellectual property protection, and the consequences of such protection (cf Future Coping Strategies: beyond the constraints of proprietary metaphors, 1992). Possible examples are illustrated by the work of:
  - a framework such as the copyrighted AQAL, developed by Ken Wilber
  - copyrighted conceptual visual tools such as those of the Meru Foundation, developed by Stan Tenen
  - copyrighted remedial programmes or associated materials, such as the Global Action Plan
  - copyrighted educational methodologies, such as those of Edward de Bono
  - a Theory of Everything, of the class of relativity theory (Einstein's implicit theory of relativity -- of cognitive property? 2007)
  - the next Messiah -- and pronouncements subject to copyright?
- pharmaceutical and other cures:
  - an HIV/AIDS
  - enhanced memory / intelligence
  - longevity / immortality
- copyrighting of world heritage:
  - sacred literature
  - intellectual property considered blasphemous (eg cartoons)
  - images of heritage sites and skylines
- privacy-related copyright:
  - semi-covert transfer of ownership of electronic mail
- irresponsible introduction of patented technologies:
  - nanotech
  - genetic engineering (eg genetically modified seeds, plants, foodstuffs)
- "patenting life":
  - patenting gene sequences
  - patenting generic material of ethnic groups
  - efforts to patent life by Craig Venter (as notably discussed in Some implications of such issues have been raised in The Economist, 16 June 2007)
- patenting insights:
  - metaphors
  - proverbs or aphorisms
  - values or principles, singly or as sets
- patenting of disposition and thought pattern detection:
  - notably in the light of newly developed brain scan technology, capable of detecting intentions and dispositions before they manifest in practice (Ian Sample, The Brain Scan that can Read People's Intentions, Guardian, 9 February 2007).
- patenting of deadly and hazardous substances
  - deadly poison
  - Zyklon B
  - Semtex
  - safe euthanasia product
- varieties of "intangible" real estate
  - virtual real estate
  - real estate on the Moon and other planets
  - real estate beneath the surface of the Earth (cf From Lateral Thinking to Voluminous Thinking: unexplored options for subterranean habitats in dense urban areas, 2007)
• a global security patenting authority (by analogy to a Royal Patent)
• hypothetical development of the UN's Global Compact

Of particular interest are cases anticipating so many potentially relevant patents that the cost of innovation is prohibitive -- forcing an alternative approach characterized by patent avoidance through non-commercial innovation, production, innovation and use. This might effectively constitute a paradigm shift to a form of "voluntary simplicity".

Potentially informative database initiatives
Informative patent-related databases in response to the above issues might include:

• dubious patents, namely a Who Owns What by analogy with the Who Owns Whom corporate ownership directories:
  • hazardous patents (Semtex, cluster bombs, etc)
  • attribution of funds to projects involving dubious patents by analogy with the concerns of ethical investment
  • patents inhibiting development and/or endangering global security, potentially blackmailing the world
• blocking patents
• checklist of relevant information regarding patenting (in the style of Wikipedia):
  • including devious or spurious arguments (cost of research, medical benefits, an emotional appeals regarding "little Mary")
  • illustrative stories (folktales, parables, anecdotes, etc) regarding consequences of inappropriate use of (intellectual) property
  • illustrative cases
  • appropriate critical thinking
  • estimated environmental or human costs of some patents (Semtex, AK47, etc)
• ethical corporations using unethical patents

Principle of "patent holder pays"?
The above arguments point to the merits of exploring a principle analogous to the Polluter Pays Principle. Currently this is a principle in international environmental law under which the polluting party pays for the damage done to the natural environment. It is regarded as a regional custom because of the strong support it has received from the Organisation for Economic Co-operation and Development (OECD) and European Community (EC) countries. International environmental law currently makes little mention of the principle.

Under a "Patent Holder Pays" principle it would be for the party ultimately benefiting financially from the patent protection of their property to ensure payment for damages to the environment or to people. The patent holder would necessarily make provision for reparations in licensing use of the patent to others.

Consideration could also be given to any costs associated with unreasonable failure to enable use of the patented know-how where there is a reasonable demand to benefit from it.

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