

Reasoning the Morality Behind Life Patents

**Master of Laws in Intellectual Property
Edition 2016/2017**

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Abstract

The aim of this paper is to discuss the relationship between patents and morality. Most countries around the world introduce the concept of morality into their patent laws thus questions such as what is morality remain unanswered. However this paper will try to limit this question on the base of patent laws but not seek for a general concept of morality. By analyzing legal provisions and cases, this paper tries to explain questions like what is the place of morality in patent laws and the different tests of morality. In each part of this paper, the author will pore over the Patent Law of People's Republic of China and some Chinese traditional values. Possibilities of significant changes in China' patent law regarding to life patenting will also be predicted. The author generally refers to three kinds of life patents: animal, plants and subject matters originated from the human body. To be specific, in this paper the author choses the Onco-Mouse as an example as animal patent. This paper will also focus on the future trend of genetic engineering plants in China and will compare the developments between the U.S. and China. Microorganism is excluded in this paper because it is a common sense that human historically exploited microorganisms or even patented them. In the final part, the power of public is emphasized and a destigmatization of 'patenting life' is advocated.

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Introduction

The aim of this paper is to discuss the relationship between patents and morality. This relationship can be controversial. Some may argue that whatever the ultimate intentions of the patentees are, the morality of the act of patenting should not be part of the analysis.¹ These “patent amoralists” would argue that the patent system is purely economic and technical.

Considering the reasoning above, it is understandable for “patent amoralists” to state that patents are nothing to do with morality, and thus ethically neutral. However, this cannot be extended to the conclusion that debating on patent morality is meaningless. At least so far, most countries around the world introduce the concept of morality into their patent laws. China’s patent law, EPC and TRIPS agreement² are some examples. This can create problems like what is morality and who is going to answer that question.

Morality is an ambiguous word. When considering international intellectual property agreements like TRIPS, we should be aware that the concept of morality is going to vary in different context of different cultures. The development of IP research is related to the development of technology. Western countries tend to play a leading role in this area, but when the core point comes to the relationship between morality and patent, is the western experience applicable worldwide?

China’s patent system came relatively late in 1984 and China joined TRIPS at 2001. In thirty years, the patent law has been amended three times.³ As China becomes a country holding a great number of patents and technology rapidly grows, more amendment can be carried out for China’s patent law. It is good to play the IP cards and more problems are waiting ahead. For example, so far life patenting is restricted but what is the future trend? This topic will be discussed in latter section. To that extent, this paper will pore over the Patent Law of People’s Republic of China and some Chinese traditional values. The author will also analyze the possibilities of significant changes in China’ patent law regarding to life patenting.

The reason why this paper choses life patents as the research subject is that life patents are closely related to morality and they have always been the controversial topic. TRIPS agreement Article 27 (2) gives a clear explanation of the relationship between morality and life: ‘...to protect ordre public or morality, including to protect human,

1 Crespi, R. Stephen. Biotechnology patents and morality. TIBTECH, April 1997 Vol. 15, p123-p124

2 the Patent Law of the People's Republic of China Article 5; the European Patent Convention Article 53 (a); the TRIPS agreement Article 27 2.

3 the Patent Law of the People's Republic of China,

http://english.sipo.gov.cn/laws/lawsregulations/201101/t20110119_566244.html

animal or plant life or health...'

Here is one thing that needs to clarify: Life patent is not a precise expression. This paper also does not intend to give a definition of life patents. When the phrase 'life patent' is used, the author generally refers to three kinds of patents: animal, plants and subject matters originated from the human body. They are all mentioned above in Article 27 (2). Microorganism is excluded in this paper because it is a common sense that human historically exploited microorganisms or even patented them. For example, it is acceptable around the world to use yeast to make bread or beer.

To be specific, in this paper the author chooses the Onco-Mouse as an example of an animal patent. There are different tests of morality triggered by the onco-mouse case and they should be analyzed to help understand the relationship between morality and life patenting. As for plants, since plant varieties have been protected in Europe, the U.S. and China for years, this paper will focus on the future trend of genetic engineering plants in China and will compare the developments between the U.S. and China. The last part is about patents related to human genes and embryo and the conclusion. But before all of that, we should see how morality is related to patent while goes around a precise definition of morality.

What Is The Place of Morality in Patent Laws?

Firstly, a clear understanding of the relationship between morality and patents is very important. To answer this question, it is a rational move to explore international intellectual property provisions because the final goal of patent system is to give scientific research a motivation and to benefit people all over the world. It has been argued that a reward is granted by public body acting in the public interest, therefore issues of public policy play an important role.⁴ International treaties are always the result of negotiations of different countries and represent their wills. Let take TRIPS agreement Article 27 as an example.

1. Subject to the provisions of paragraphs 2 and 3, patents shall be available for any inventions, whether products or processes, in all fields of technology...

Article 27 (1) reads that patents should be available for any inventions in all fields of technology. As long as they meet the requirement of novelty, inventive step and capability of industrial application, all inventions should be patentable. It is a quite broad obligation for Member States. Although TRIPS agreement does not give a definition for invention and Member States have to define what an invention is in their laws, still the subject matter should include almost every kind of technology. It is understandable because the patentable subject matter is crucial for an international IP

⁴ Alexander, Daniel (2000) 'The Case for and Against the Patenting of Biotechnological Inventions', chapter 21 in Streckx, Sigrid (ed.) (2000), p 255.

treaty to work and the concept of subject matter should be broad enough so that there are more overlap areas. Otherwise, it will be really difficult to protect patent world widely if one invention that is granted patent in one country is excluded from patentability in another country. So if the treaty wants to function well, we should put some certainty here and that is any invention in all fields of technology. However, One country cannot ignore another countries' will while using the power of intellectual property rights. So international treaties on intellectual property usually have a lot of flexibilities in order to leave some decision power in the hand of every sovereignty country, for instance Article 27 (2) is flexibility.

2. Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

We can see that there is a possibility for Member States to abuse the flexibility. In the name of protecting citizens, countries can exclude almost every invention from patentability in their civil laws as long as they legislate such invention is not proper for a patent. For example, a national court can easily block some foreign communication technology in the name of information security. It is an undermining power; the treaties might be weakened by this. So to avoid that, Article 27 requires that Members should '*provided that such exclusion is not made merely because the exploitation is prohibited by their law.*' Countries need to decide what inventions are harmful to public order or morality. We can see the balance that is pending here. National sovereignty should be respected, and at the meanwhile their decision power should also be limited for the treaty to work. The solution here is to draw a boundary of morality, which might be not as clear as it should be. Every country should have their interpretations and as we know, sometimes moralities among countries can be greatly different. In the following sections of this paper will analyze several examples such as in regard to animal and plants.

The Utilitarian Test of Morality

As stated in last section, morality has been seen as flexibility in international treaties. The similar reasoning is not quite applicable to European Patent Convention. Because for European Union members, there are other crucial questions they need to solve: is there a common morality of Europe and who is to decide that and how EU behaves like a whole? The experience of how European Patent Office carried out the test of *ordre public* and morality is essential.

In 1992 the EPO granted the famous patent of Harvard Onco-Mouse.⁵ The

⁵ Harvard/Onco-Mouse, Examining Division, OJ EPO [1989]; Board of Appeal [1990] EPOR 501; 451

Onco-Mouse is more sensitive to carcinogens and its DNA is manipulated for that purpose so it met the requirement of an invention but the EPO's Examining Division rejected the application. Initially this case was not fall into the discussion of morality. The concept of morality within the EPC is Article 53(a) but the EPO's Examining Division judged this patent base on a combination of Article 53(b) and Article 83 EPC. However, the Technical Board of Appeal had different opinion that that Onco-Mouse was a type of case where Article 53(a) should be taken into consideration.⁶ To be specific, it is to consider that if there was a possibility of remedying various diseases, cruelty to animals and a risk to the environment.⁷ These considerations are formulated to be a utilitarian test and applied this test, the Examining Division finally granted the patent. This utilitarian doctrine is an important one because it gave an example of examining the morality in EU laws. In latter part of this section, this test and the US moral utility doctrine will be compared to inspire the understanding of China's patent law.

In fact, the application of the utilitarian test was satisfying. This approach was adopted in another case called Upjohn Mouse. This kind of mouse was genetically designed to lose hair and can help research on human baldness. The suffering caused to the animal was lighter than the case in the Onco-Mouse and the application of the utilitarian test worked well and showed to be effective.⁸

The U.S. also introduces the concept of utility into their patent system. However, based on the US patent law, there is no statutory bar for the United States Patent and Trademark Office or a court to reject a patent because of morality. The U.S. has a de facto system to apply or even patent first the biotech subject matter which may be moral controversial and then this issue will be questioned.⁹ This is different with the situation under the EPC when moral concerns are asked before a patent is granted. So the courts need to give an interpretation and in this case, USC section 101 (2000) is the provision should be pay attention to.

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent thereof, subject to the conditions and requirements of this title.

US patent law avoids to use the word 'morality' in provisions but enabled the courts and the USPTO to refuse patent applications on the ground that it was not useful. This utility doctrine contained a notion that for a patent to be useful, a certain standards of

6 [1990] EPOR 501 at 513.

7 [1991] EPOR 525 at 527

8 ECLI:EP:BA:1999:T079196.19991115

9 Bagley, Margo (2007). A Global Controversy: The Role of Morality in Biotechnology Patent Law, University of Virginia Law School: Public Law and Legal Theory Working Paper Series, Paper 57, p 318.

morality should be reached and fulfilled. This utility doctrine was firstly interpreted in relation with morality in case like *Lowell v Lewis*¹⁰, but over time the moral utility doctrine declined and finally in the decision in *Juicy Whip v Orange Bang*,¹¹ it lost favor with the court. The court held that:

[T]he principle that inventions are invalid if they are principally designed to serve immoral or illegal purpose has not been applied in recent years.

Therefore we can clearly state that now the US patent system does not have a built in concept of morality. In relevant articles, there is also a trend calling for the removal of Article 53(a) from the EPC.¹³ Is it also suitable for China? After analyzing two different patent systems, we should move to China's patent law. What is China's interpretation of morality according to its law and is there a possibility for China to patent animals? (For now, animal is not an eligible subject matter.) What is the inspiration of utilitarian test to China?

First of all, it is necessary to figure out the articles in the Patent Law of the People's Republic of China in relation with morality. That is Article 5

*Patent rights shall not be granted for invention-creations that violate the law or social ethics, or harm public interests...*¹⁴

This is coherent with the TRIPS agreement. As stated before, the setting out of China's patent system is relatively late so it is important for China to use other countries experiences. And clearly in Article 5, China's patent law puts public interests in an important place, which demonstrates the utilitarian approach of China's patent law. So if there is going to be a test of morality in China's patent system, it will be more similar to EU's utilitarian test but not close to the US's one based on the term 'useful'. 'Public interests' is a broader concept than 'public morality' or, as used in Article 5, 'social ethics'. 'Social ethics' is of no different from 'public morality' but a different way of translation. But it is interesting to notice that in Article 5, 'social ethics' is used instead of '*ordre public*' and 'morality'. It deems 'social ethics' as a combination of the two mentioned in TRIPS so it does not separate the public and the morality but more like that morality is for public's own good as a whole. It is also confirmed with

10 *Lowell v Lewis*, 15 F.Cas. 1018 (1817)

11 *Juicy Whip v Orange Bang Inc and Unique Beverage Dispensers Inc*, 185 USPQ F 3d 1364 [1999]

12 Phillips, Valerie (2005) 'Half-human Creature, Plants and Indigenous Peoples: Musing on Ramification of Western Notions of Intellectual Property and the Newman-Rifkin attempt to Patent a Theoretical Half-human Creature', *Santa Clara Computer and High Technology Law Journal* 21, p 383.

13 See: Oliver Mills (2005); Adam Inch (2008).

14 the Patent Law of the People's Republic of China,

http://english.sipo.gov.cn/laws/lawsregulations/201101/t20110119_566244.html

Chinese traditional value.¹⁵ But there is another way to interpret the relationship between ‘*ordre public*’ and ‘morality’ as shown in the *Plant Genetic Systems case*.¹⁶

The Standard of European Society and Overwhelming Consensus

The Opposition Division in the *Plant Genetic System case* held that the utilitarian test should be only applied in cases that are relevant to animal patents and they tried to establish a new one. The Technical Board of Appeal of EPO went further and gave a two-part analysis. The Board differentiated the definitions between ‘*ordre public*’ and ‘morality’ but not like in the *Onco-Mouse case* or like China’s approach in which these two concepts are combined together and judged by the utilitarian test. To state separately, ‘*ordre public*’ was to cover ‘*the protection of public security and the physical integrity of individuals as part of society*’. And *the concept of morality is related to the belief that some behavior is right and acceptable whereas other behavior is wrong, this belief being founded on the totality of the accepted norms which are deeply rooted in a particular culture*.

It is even more problematic to state that morality norms are rooted in a culture. They are but this interpretation will undermine the certainty of law. When referring to culture, the Board agreed that an invention was not patentable because it was not conventionally accepted by the standards of European society. But the problem here is that all Contracting States are suddenly parties of a European civilization, as there already exists one. It is indeed problematic but maybe next test of consensus can get around this question.

The famous *Relaxin case*¹⁷ involved a patent that could help to relax the uterus and reduce pain level during childbirth. This subject matter originates from women. Once again, the opponents argued that the act of patenting human genes is not moral and the patent should be rejected. This time, the Opposition Division held that such a patent should be refused if it is ‘*founded on the premise that there is an overwhelming consensus among the Contracting States that the patenting of human genes is abhorrent and hence prohibited under Article 53(a)*’ No wonder that such a clear overwhelming consensus is hard to proved. It is a narrow requirement so that the ambit of Article 53(a) is restricted. Actually, all these three tests were trying to narrow down the interpretation of Article 53(a). It is in the aim of not blocking the scientific development merely because objections triggered by morality concerns, which did happen before. China should also be aware of the balance between community consensus and incentive of innovations. In the next section, the topic will be major

15 Confucian Analects, Book II: Wei Chang, Chapter 3; Book XII: Yen Yûan, Chapter 1.

16 Greenpeace UK v Plant Genetic System NV, Opposition Division, (1993) 24 International Review of Industrial Property and Copyright Law 618; Technical Board of Appeal, [1995] EPOR 357.

17 Howard Florey Institute [Relaxin], V8/94 Relaxin, OJ EPO 6/1995, 541.

morality concerns related to technology development, taking genetic engineering plants' development in China as an example.

Morality Concerns: the Power of Public

In general, the morality reasoning behind life patents can be regarded as a debate of morality and technology development. As technology develops quickly, it becomes harder for the public to get right ideas about the newest scientific achievement and they are easily misguided. There is always a fear to the unknown. Just because patents are amoral, people are afraid that scientists will overlook things like religions, human and other lives' dignity and all in all, social morality. People are afraid of the trap inside science and for sure it can never be too cautious to manipulate technical power.

But we cannot let this terror freeze our marching nor can we cannot simply disregard the morality concerns because most of them behave in a negative way and bring unnecessary burden. We need to explore carefully and most importantly, try not to overlook anything or anyone in our society.

Patent is an easy target for objectors to attack mainly because the saying of 'owning' an invention. Thus when patenting animals, plants or human genes, the expression of 'owning life' can certainly evoke public controversy. It is easy for scholars to argue that patents are exclusive power and 'patenting life' is a meaningless because 'life' is an abstraction and thus cannot be patented. But nowadays in a post-truth world, slogans that have emotional force run faster than the truth. So the real wise way to eliminate the confrontation between life patenting and societies who have morality concerns is to advocate supporting of science development.

Sometimes opinions are not easy or impossible to reach an agreement. For example, some vegetarians may make an unrealistic argument that it is essentially immoral to eat meat. This argument is not persuasive enough to cause a reflection of farming industry. But some arguments should be taken seriously. Such as in the case of PDS/Glutamine Synthetase Inhibitors which is related to transgenic plants¹⁸, Greenpeace argued that plant material is a collective heritage and belongs to every human being. There is a basic objection to the idea of treating life as a 'commodity'. However, even if this is a question hard to answer, it can hardly present a major barrier to IP development in some countries. According to Confucius, treating life as commodity is not a real morality concern¹⁹. Compared to that, people in China now may be more concerned to problems such as food safety related to transgenic plants. And without clarification, transgenic plants cannot have a wide acceptance. For now, transgenic plants are facing difficulty in China, for example, advertisements emphasize their products are not made from transgenic plants. The US also had the same problem in the past years and

18 Bently, L. and Sherman, B. The Question of Patenting Life, Perspectives on Intellectual Property Vol 4: Intellectual Property and Ethics, Sweet & Maxwell, 1998. p113

19 Confucian Analects, Book X: Heang Tang, chapter 12.

it is inspiring to learn from this experience.

This period of history is closely related to a famous company named Monsanto²⁰. This company began its leading run because of several crucial patents, such as the 35S RNA and gene gun. But then it found that transgenic plants were not easy to enter Europe. In other words, the market was very limited and it was because the consumers thought that Monsanto was driven by profit and could not guarantee the safety. Nevertheless, Green Peace that is an environment protectionist group began its protest of Monsanto. And in fact reports like a Brazil-Nut Allergen in Transgenic Soybeans²² played an important role in resulting public mistrust in Europe and blocked Monsanto outside Europe. And later in 1999, a research showed that transgenic pollen harmed monarch larvae became the last straw. Although this research was doubted to provide with misleading evidence, still the American people began to protest Monsanto and kind of ruined the future of transgenic plants. In the end Monsanto had to admit that they overestimated their technology and were wrong because they forgot to listen.

Monsanto did not fail because their over-confidence but because they keep placing themselves in the opposition of the public. Maybe the public is ignorant about the newest technology, but it is always the worst idea to tease them and ignore them. Now China is facing the similar situation. Although the government advocates transgenic plants, people would not believe. Public is powerful so destigmatization is badly needed. Morality never should be the weapon to fight against technology development but when the public turns to that weapon, fighting is the last choice. Maybe in the future the China's patent law will have an amendment in favor of transgenic plants patent. Social morality and public interest means the utilitarian approach rather than morality concerns. The problem is that when there is an overwhelming consensus, compromises must be made so the first step to solve the morality concerns raised by life patenting is to envisage the public's misconception and find ways of destigmatization.

The Conclusion

Another interesting subject is human embryonic stem cell. It is even more controversial than genetic engineering plants and will definitely raise morality issues when people compare it with abortion. But one thing needs to be stated here, abortion is accepted by China's society. China has the one child policy (now a second child is allowed), so abortion is kind of a necessity to execute that policy. Most western countries are Christian countries and abortion may be a problem or trigger debate about morality. However in China, not much debate on abortion is carried out. So it can be a moral base for the public to accept human embryonic stem cell in China.

²⁰ The information of the history of Monsanto is summarized based on *Lords of the Harvest*. See bibliography.

Still it is doubtful that will China go that far. On 27th Nov. 2008 the Enlarged Board of Appeal of the EPO ruled that the creation of embryonic stem cells whose derivation requires the destruction of a human embryo cannot be patented, its decision brought closure to a 13 year debate over a patent application from the Wisconsin Alumni Research Foundation for a method to derive stem cells from the undifferentiated cells of human embryos.²¹ Similarly, on 15th Apr. 2013 the US Supreme Court ruled over the famous Myriad case and hold that DNA is not patentable. It seems that it is good for China to allow human embryonic stem cell and DNA in order to attract research on the said field. Now according to China's patent law, '*Patent rights shall not be granted for inventions that are accomplished by relying on genetic resources which are obtained or used in violation of the provisions of laws and administrative regulations.*'²² So it kind of sort to other regulations to rule over in case related to human embryo. However, it can be useful to motivate the research on such area of technology. The key question is still about morality. Will the public support the act of patenting life? After all, governance and science are 'co-produced'.²³

The fundamental incoherency of morality and life patenting is how the public reacts to new form of life technologies. It is not the court or patent offices' job to define what morality is so the only possibility is to turn to the public. However the public is unpredictable and easily misled. The public has power and they are used to resort to emotion and thus kind of block the development of biotechnology. But we should believe that there must be a balance between the public's morality and enough motivation for biotechnology. The government also plays an important role in reduce the resist feeling to life patents. In China's case, animal patents and genetic engineering plants are more likely to be patentable in the future than subject matters origin from the human body. However, as the technology develops and the public is more tolerant on life patents, there will be a breakthrough and hopefully that will boost the research on technologies which definitely improves human's life.

21 Salter, Brian. Patents and morality: governing human embryonic stem cell science in Europe, European Law & Ethics, Plomer Aurora, Oxford University Press: New York. 2009

22 the Patent Law of the People's Republic of China Article 5

23 Jasanoff(ed), States of knowledge: the co-production of science and social order. London: Routledge, 2004.

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