## Chapter 1 : Canada Rejects Patents on Higher Life Forms

*Multinational corporations, supported by the US government, managed to insert a text on the patenting of life in the Trade Related Intellectual Properties (TRIPs) section of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in*

However, according to patent laws in each country, not everything made by man is patentableâ€”there are excluded subject matters in most countries. The rules include that: Moreover, the protection is absolute protection; ii. The novel medicinal use of a known compound can be drafted in the manner of a Swiss-type claim in order to obtain patent protection of the use. Moreover, the protection is absolute. The novel medicinal use of a known compound can be drafted in the manner of the method for the treatment of diseases in order to obtain patent protection. Products used for the diagnosis or treatment of diseasesâ€”such as substances, compositions, kits and equipments, and apparatusâ€”are patentable. Animal species and plant varieties are not patentable. A somatic cell of an animal, a tissue and an organ of an animal are excluded. A cell, a tissue and an organ of a plant are excluded. Patent rights may be granted for processes used in producing animal and plant varieties. The preparation methods of microbial strains, microorganisms and microbial products are all patentable. However, a microorganism is patentable only when it is isolated into pure culture and has particular industrial use. Moreover, when an invention involves a new biological material, the applicant should deposit a sample of the biological material. US position In the US, inventions related to plant varieties and microorganisms are all patentable. Moreover, it would consider non-naturally occurring, non-human multicellular living organisms, including animals, to be patentable subject matter. Biological inventions in China Rules relating to inventions in the biological field in China include: Embryonic stem cells, germ cells, oosperms, and embryos of human beings shall not be granted patent rights. A vector, a recombinant vector, a transformant, a polypeptide or a protein, a fusion cell, a monoclonal antibody, the preparation method and its use are all patentable. Non-biological methods which can produce living organisms or other components or modify animals, plants, microorganisms or even part of the tissues of living organisms by technical means such as extracting, changing, storing, carrying and reproducing genes are all patentable. In contrast, in China, there are many exclusions. Therefore, in China, the submission of patent applications related to the mentioned fields requires special care. Yu Guo is a patent attorney at China Patent Agent. He can be contacted at:

## Chapter 2 : What is the Â“Composition of MatterÂ” category for patentable inventions?

*Through a comparative review of patenting in two key but diverging jurisdictions, Canada and the US, this book considers how states might exercise the right of self-determination in their domestic law and policy over biopatenting to promote objectives of human welfare and fair competition.*

The patent, which was issued on a process for animal cloning, was written so broadly that it appears to include human cloning and products of cloning in its protection. As the ICTA wrote in the announcement of its discovery: The description of the patent places the public on notice that "the present invention encompasses the living, cloned products produced by each of the methods described herein" column 7, lines  Patentees have the right until April 3, , to present such product claims. However, even in the absence of such a claim broadening, the patent owners now have rights over the product, i. The application even specifically includes the use of "human oocytes" eggs in the list of mammalian eggs that may be used in the cloning process. The University shares control of the patent with BioTransplant, Inc. Patenting of Biological Life Forms A patent gives the holder exclusive rights to benefit from his or her innovation for twenty years. Some things, like products of nature and physical laws, are not patentable, and others, such as plant hybrids, are. Until the late 20th century, biological life forms could not be patented. In the United States Supreme Court ruled by a razor-thin margin that a genetically engineered bacterium capable of dissolving oil spills was patentable. Just seven years ago, the PTO issued a policy statement that non-naturally occurring, non-human multi-cellular living organisms could be patented. Within a year the "Harvard Mouse" genetically engineered to be highly susceptible to cancer met the new criteria and was patented. The PTO has previously had a policy of denying patents on humans or human embryos because they institute a form of slavery in violation of the 13th Amendment. That policy seems to have changed. An issue of such importance should not be settled by a federal agency nor left to the conscience of a university or biotech company. We should all be involved in the process to determine the limits of this new technology. When a university spokesman was asked about the controversy, he said, "This [patent] gives us control of this particular technology so we will know that this technology will not be used in humans. How long can we realistically expect this type of cloning to be forestalled in humans when the twin pressures of institutional pride to be the first to successfully clone a human embryo or person and the need to increase its funding base by licensing the process to biotech companies are always weighing heavily? There are abundant ethical arguments against human cloning. Some are particularly relevant to the patenting issue described here. The prevailing apparent ethical perspective of the biotechnology industry, is a utilitarian free-enterprise approach--propped up by claims of academic freedom and unconstrained medical research. Embryonic stem cells from clones, being a genetic match to the patient receiving the cells, are believed to be immune to problems of tissue rejection normally associated with stem cells from non-genetically identical embryos. However, the only way to obtain the embryonic stem cells is to extract them from the cloned embryo, destroying the embryo in the process. The greatest good is seen as helping people who are conscious and able to communicate with us at the expense of nascent human life. The other side of this ethical debate is the position that argues that all human life, regardless of age or status in life, should be accorded human rights and dignity. From a Christian perspective, this value comes from all human life being created in the image of God. But should those who do not share these convictions be concerned if only some human life is protected and accorded dignity? If some human life can be used for the benefit of others, defined out of the protected status we all should enjoy, then we are all vulnerable to exploitation. Once the principle of universal human rights and dignity is broken, the weak will always risk suffering at the hands of the powerful. It is a situation that we all should want to avoid. What is true is that there is no clearly spelled out, comprehensive public policy on human cloning addressing the ethical issues at stake. Federal laws, regulations, state legislation, and administrative actions such as patent grants are debated and decided in a piecemeal manner. Whether this human cloning process patent was granted with full knowledge or inadvertence, it points out the need for a consistent, enforceable public policy. Neither patent attorneys nor the PTO should be responsible for prohibiting or limiting human cloning efforts in this way. Patent applications

are often written in terms that cover the waterfront, to prevent infringement by competitors. Competing claims are left to the determination of federal judges. In the case of human cloning, that offers little comfort to those of us who believe we need a real public debate. Judges are not supposed to create public policy in a vacuum, but rather to interpret laws that have been through the public debate process. In the absence of such clear-cut legal parameters, judges often must make law. Our public policy is then determined by whether the case is decided by a judge sympathetic to life-affirming moral concerns or one who prefers the utilitarian calculus, finding the claims of embryos in petri dishes outweighed by the forces of the multi-billion dollar biomedical industrial complex. Neither the patent office nor the courts should make the initial determination of whether a human cloning process is legally patentable. A public policy issue of this gravity--and few are of greater importance to the human race--should be resolved by Congress. What would an ethical public policy entail? At the least, it should recognize the following principles: Every human being, however conceived or created, is unique and deserving of protection. From a religious perspective, humans are different from animals and above all animals, because humans, alone, are created in the image of God. Every human being has the right to individual autonomy, i. No person or entity has the right to enslave, own, or control any human being, regardless of stage of biological development. Any organism that is genetically human is a human being. A cloned embryo is distinct and separate from the person donating the genetic material, and therefore is a unique being protected in law. No person or institution has the right to control or profit from any process designed to clone a human being. The debate over legislation to ban cloning of human beings should resolve what aspects, if any, of this technology ought to be patentable. The current lack of a coherent public policy is a quagmire that must be addressed promptly, firmly, and ethically. Patent for Reproductive Human Cloning" accessed May 23, ; available from http: If so, this raises the question of how much human DNA is required to make a "human"? Mitochondrial human DNA in the egg will be part of the cloned embryo.

## Chapter 3 : United States patent law - Wikipedia

*patenting higher life forms, concluding that methods other than patent law may be more appropriate for regulating such genetic research. The articlefurther discusses the gaps.*

It allows the owner of the patent the patentee to take legal action against others who use his invention without his permission. The right has a maximum life-time of 20 years in most countries, from the date of the patent application. What a patent does not do is give the owner an automatic right to use the invention. How do I get a patent? If they decide your invention is patentable, the patent will be granted usually about four years after you made the application, but sometimes sooner than this. See below for the procedure. Do I need a patent to use my invention? Whether or not you have a patent, you are free to exploit your invention, although only if no one else already has patent rights to it. However, if you do not have a patent, it can be very hard to stop other people copying your invention. Note, as we have said before, that even if you do have a patent, that does not automatically give you the right to use your invention because others may own rights which prevent or restrict your use. The potential benefits are significant: The tax reduction could easily outweigh the cost of obtaining the UK patent and potentially have a far greater financial benefit to your business. Click here for more information about the Patent Box, or you can contact your regular Mewburn Ellis contact. Who owns the patent? A patent belongs to the inventor, unless he has given the rights to someone else. Normally, if the inventor is an employee and he makes the invention in the course of his work, the rights belong to the employer. The owner of the patent may license it, allowing others to use his invention. Alternatively, he can sell it to someone else. What can I patent? To be patentable, your invention must meet the following conditions: It must be new. This means that your invention must not have been published by someone else before you. It must involve an inventive step. This means that the invention must not simply be an obvious development of something that is already known. It must be capable of being made or used in any kind of industry, including agriculture. Most inventions satisfy this requirement. An invention is typically an apparatus, a product, a manufacturing process etc. Your invention must not fall into an excluded category. This includes works of art, scientific theories, mathematical methods and the presentation of information. We can give you advice about this. How do I apply for a patent? An application for a UK patent can be made directly by you, or you can authorise a patent agent to act on your behalf. Chartered patent agents are professionally qualified people who are experienced in dealing with the UK Intellectual Property Office and the application procedure. Your application must contain: On receipt of the application the UK Intellectual Property Office gives the application a filing date and a number and sends you a receipt. This includes talks and published documents. Therefore it is important to apply for a patent and obtain a filing date as soon as possible. Other patent applications with an earlier filing date can also affect your application. After filing you have a year in which to develop your idea and investigate its commercial possibilities before you have to do anything more. Within a year from the filing date you have to file: Claims defining the protection you are seeking. You should get advice on drawing up the claims as they are very important. A competitor can only be sued if he does, or produces, what is described in the claims. An abstract giving a brief summary of the invention. A request for a search with a fee. The UK Intellectual Property Office will search for documents showing inventions similar to yours and then issue a search report which lists any relevant documents from around the world that they have found in reference books, scientific journals or other patents. This search gives you an early indication of how likely you are to obtain a patent. Eighteen months after the patent application was filed it is automatically published and is available for anyone to look at. This is not a granted patent and you cannot sue anyone yet for using your invention. Within six months of publication you must pay a further fee and request examination. During this detailed examination, the UK Intellectual Property Office may write to you giving reasons why the invention is not new or is obvious. This often involves changing the description of the invention or the claims before agreement is reached, and this can take time. When the UK Intellectual Property Office agrees that your invention is new and inventive, your patent will be granted. The process for obtaining a UK granted patent usually takes about four years from the date of the application.

However, if you pay some fees early and reply promptly to letters from the UK Intellectual Property Office, it may be possible to reduce this time to as little as 18 months, if your invention is not a complex one. After four years from the filing date, once granted, annual renewal fees need to be paid to keep the patent in force. These fees increase as the patent gets older. How do I enforce my patent? The fact that you own a patent will often deter competitors from using your invention. It helps to refer to it in your product literature once your patent has been granted. However, if your invention is being used by someone without your consent infringement you can obtain an injunction to stop them and claim damages compensation. You cannot sue for infringement until your patent is granted. However, once your patent is granted, you may be able to claim damages in retrospect from the date your patent application was published. Which countries are covered by my patent? If you want protection in countries other than the UK, you need to file further applications. Several options are available. The EPC allows you to apply for a patent in up to 38 European countries by filing a single application. A patent is then granted in each of the chosen countries. Further details can be found here. The PCT is the nearest system to an international patent, covering most of the industrialised world. One application is filed to cover a number of countries, but the application eventually splits up and proceeds in each country separately. We can explain these systems to you in more detail, and discuss their relative merits, at a later date. However, for countries which do not belong to either the EPC or the PCT you have to file a separate patent application. Do I have to file all these applications at once? You have to decide within twelve months to file applications in other countries and these further applications will be treated as if they were filed on the same date as the first one, provided they relate to the same invention. This is called claiming priority from your first application. This is useful since it gives you a year to work out whether your invention is commercially viable before spending large amounts of money on patents in other countries. A few countries will not give you this one year breathing space. If you need patent protection in such countries, you will have to apply at the same time as you make your first normally UK application. What can we do for you? A patent attorney can handle all aspects of obtaining a patent, from writing the specification of the invention â€" the description and the claims â€" to arguing the merits of the invention with the UK Intellectual Property Office. It is possible to do this yourself without employing a patent attorney. However, a patent specification is a legal document which can determine the strength of the patent you get and which has to be able to stand up against legal attack. Employing a patent attorney may increase your costs in the short term, but it is likely to give you a more secure patent. Patent attorneys are bound by rules of conduct which prevent us from telling anyone about your invention without your consent. We can advise you on other aspects of intellectual property, such as Trade Marks, Copyright and Designs. What do we need from you? If you want us to write your patent specification, we need detailed information from you about the invention: We also need your address and phone number so that we can contact you. This information is simplified and must not be taken as a definitive statement of the law or practice.

## Chapter 4 : Bita Amani (Author of State Agency and the Patenting of Life in International Law)

*Introduction The patenting of life forms is a relatively new phenomenon, but its incidence has grown at a tremendous rate in recent years, especially since the establishment of the Trade Related Intellectual Property Rights (TRIPS) Agreement of the World Trade Organization (WTO) in*

The "patentability" of inventions defining the types things that qualify for patent protection is defined under Sections â€” Most notably, section [2] sets out "subject matter" that can be patented; section [3] defines "novelty" and "statutory bars" to patent protection; section [4] requires that an invention must not only be new, but also "non-obvious". To be patent eligible subject matter, an invention must meet two criteria. First, it must fall within one of the four statutory categories of acceptable subject matter: Second, it must not be directed to subject matter encompassing a judicially recognized exception: The novelty requirement prohibits patenting a technology that is already available to the public. For a technology to be "anticipated" and therefore patent-ineligible under 35 U. Put differently, an invention that would have been obvious to a person of ordinary skill at the time of the invention is not patentable. A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section , if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. The non-obviousness requirement does not demand that the prior art be identical to the claimed invention. It is enough that the prior art can somehow be modified in order to teach the claimed technology. So long as the modification of the prior art or combination of several prior art references would have been obvious to a person of ordinary skill in the art at the time the application was filed, the applied-for technology will be considered obvious and therefore patent-ineligible under 35 U. Patent application procedure[ edit ] U. The application process is somewhat slow and generally expensive. This time limit can be extended under certain circumstances, for an additional fee. Applicants can opt out of publication if the applications will not be prosecuted internationally. The ITC is an agency of the U. In contrast to courts, which have a wide range of remedies at their disposal, including monetary damages, the ITC can grant only two forms of remedy: In addition, the ITC can grant temporary relief, similar to a preliminary injunction in U. Another survey for the same time period show that, of those 12 same industries, only twoâ€”pharmaceuticals and chemicalsâ€”believe thirty percent or more of their patentable inventions would not have been introduced or developed without having patent protection. All othersâ€”petroleum, machinery, fabricated metal products, primary metals, electrical equipment, instruments, office equipment, motor vehicles, rubber, and textilesâ€—have a percentage of twenty-five or lower, with the last four of those industries believing none of their inventions relied on the patent system to be introduced or developed.

## Chapter 5 : Biological patent - Wikipedia

*Bita Amani is the author of State Agency and the Patenting of Life in International Law ( avg rating, 0 ratings, 0 reviews), Let's get physical ( a.*

Professor Bolonkin has written his representative in Congress as well as his senator with the following letter: I write you as a man born in , who has both witnessed and taken part in some of the greatest scientific undertakings of our age, including jet age, nuclear age and space age scientific inventions. Our very health depends on innovation in many, not just a few scientific areas, and our future lifespan may well be lengthenedâ€" or, sadly, shortenedâ€" depending on events occurring now in the United States Patent Office. Sadly, the Patent Office is broken. This would probably not even be on your radar screen given the other military, economic and societal disasters happening almost monthly now, but it in fact may be one of the root causes for this historic decline in the future projected power of the American State. What was in the very beginnings of the American system, a source of national strength has instead in the last 60 years become a brake on American progress. Just as in the area of copyrights, major corporations have had their lawyers writing legislation favorable to their interests as opposed to those of society as a whole, so the small inventor has been shoved to the side in favor of a Patent Office system that limits innovation in the quest for money to fund the patent bureaucracy itself. Literally the bureaucracy favors fewer but more renumerative applications: Less work for more money. This may be more fun for the Patent Office and the corporate people, but it throttles innovation. America is a nation of small inventors, technicians, hackers and innovators, and they can fight the entire world and win, but they CANNOT fight our own Patent Office. You will not hear this from anyone who is younger than myself because they frankly fear the retaliation of the bureaucracy. I have nothing to fear or prove anymore, and I am writing this letter in order to help pay back the country that has given me so much, including my freedom and quite possibly my life; I was in the Siberian punitive camp system of the USSR as a political prisoner, and, I assure you, not as a tourist. Should you desire to regenerate the US economy in the next decadeâ€" when we face the huge competition of many more Chinese engineers than Americanâ€" when they start from savings, and we from debt, they from boom and we from near-depressionâ€" one of the few cheap ways open to you is to take this suggestionâ€" I suggest the following system and law: The Library automatically indicates only date of receiving in case of future dispute. The whole expensive patent process then only would begin request of patent payments, fees, etc when inventor will ask about it. It is possible, when the first listed inventor finds a buyer or investor of interest relative to his inventions, or if a company uses the invention without permission and the inventor can then find a lawyer to take the case in return for a percentage. Note that this does not stop patent law from happening but massively increases American prior claims to inventions, of great value in world competition. As most patents do not find a use or company illegal uses this invention. If an inventor did not find the buyer or interested company in during the conventional 20 years, it is open for any company and all people to use the invention. Consider the massive quantity of inventions to which the inventive but poor American workshop or pensioner could come up withâ€" and the income it could bring to the Nation. As it is now, the cash-poor but idea rich inventor does not even bother, and often foreigners claim rights to an idea that Americans thought of first. The patenting process takes some years and this comes off the top of the useful life of the patent. Patent law that favors the deep pocketed empties the pockets of the Nation it alleges to serve. I urge passage of a law enacting the simplified system above so that the Patent Office can become the main enabler of technical progress in the USA rather than the main obstacle on the way to inventors. If you require more details please contact me and I will be happy to help. Bolonkin Author of scientific articles and books and 17 inventions. Trademarks are not specifically allowed in the Constitution, but personally my feeling is that it should be OK to make a perfect replica of a Rolls Royceâ€"but ONLY to market it as a replica say, an X brand replica of a Rolls Royce. To market it as an actual Rolls Royce should be fraudâ€"just so people know what they are really paying for and getting. Contracts are a huge subject, but plainly necessary to reliable business function. Copyrights have been hugely abused by gratuitous extension of terms that nearly eliminates the coming out into public domain of

orphan works but that is a topic for another day. This is like a nuclear strike, able to force a major competitor out of an entire market in the most extreme cases. Another key feature is the ability to force payment of royalties, with the power of an injunction the shutdown strike as the leverage to exact as much as the victim of the suit will bear. If all these penalties were applied solely in truly heinous cases of criminal conspiracy and premeditated ripoff, that would be one thing. But the legal system does not work that way. Once something is allowed to be done at all,, it is allowed to be done in circumstances that meet the letter of the law, but are wildly different in spirit. And invariably these new laws are applied in ways most convenient for the prosecutors, not society as a whole: Martha Stewart told an untruth to a government agent as have countless others but she was convicted whereas many professional criminals who have done much, much worse were not. Simply put and I frankly cannot prove this but I leave looking up occurrences as an exercise for the reader great prosecutorial careers appear to be advanced by snagging famous people and it certainly is much safer than going after actual murderers or other actual threats to society. If you have time to read 95 listings of unprosecuted or nearly so corruption at last count feel free to click here http: Selective justice of the least connected famous people attackable on the evening news in a way calculated to advance prosecutorial careers is not justice, just the illusion of justice. Those interested in particularly disturbing versions of prosecutorial abuses and misconduct can read more at http: It does, however, open the door to considerable rent-seeking behavior. Popular image of patents: It is a common fantasy, which is why those ads keep on appearing over the generations And we are talking many generations: I have seen similar ads from the s in old publications. But the cow still gets milked. Patent Systemâ€”like legal systemâ€”nowadays organized for benefit of most connected and powerful superusers. But the reality is different from the fantasy. Just as a computer network has several classes of usersâ€”ordinary users and privileged superusers so does the legal system. The small inventor has not been. The Iron Law of Bureaucracy. Examples in education would be teachers who work and sacrifice to teach children, vs. The Iron Law states that in all cases, the second type of person will always gain control of the organization, and will always write the rules under which the organization functions. Given long enough, this sort of organizational arthritis sets in. That is why volunteer organizations, though haphazard are superior in my view to governmental agenciesâ€”they die out, or at least lose personnel when deteriorating, rather than grow in power precisely because of that deterioration. Which agency is likely to be more effective in the lobbying process: When lobbying behaviors and office politics are rewarded, they are selected for. This applies to corporate bureaucracies as well, but at least individuals can choose not to support them and not to do business with them. Not so governmental agenciesâ€¦ The Societal Price of Patents. It is well to remember that patents are a survival of an ancient form of royally granted privilege. Robert Clive, who returned as Governor-General in made the sale of tobacco, betel nut, and salt apart from other accessories and essential spices andcondiments, the monopoly of the senior officers of the British East India Company. Contracts were given to deliver salt to depots. Consider just the sheer nerve and gall required to tell people that they must from now on allocate part of their money to you for the privilege of doing something that they had a perfect right to do until now use salt, or pay to use an invention that you patented first. This is obviously an infringement on individual rights that can only be justified by some overwhelming need. The United States Constitution allowed patent monopolies however in order to glean the benefits to society of publicly spread inventions and innovations as opposed to trade secrets that die with the user or his line or his company. Their personal return is far greater than the societal return from the present patent system. Also at work is the Shirky Principle: Anyone that wants to can use the patent system to cause you no end of grief No matter how solid the case or how much time and energy you spend, patent law can and will easily turn against you. In fact, it is almost certain to do so. For most individuals and small scale startups, patents are virtually certain to result in a net loss of time, energy, money, and sanity. One reason for this is the outrageously wrong urban lore involving patents and patenting. It is ludicrously absurd to try and patent a million dollar idea. This library explores many tested and fully proven real-world alternates to patents and patenting. Who aggressively uses the trade journals, professional associations, and online resources. And who thoroughly understands the engineering, mathematical, marketing, distribution, and economic underpinnings for the target field. If you are an outsider, your odds are likely to end up worse than 1,, And the way to do that is through freeing inventors. But more of

that later. The basic thesis of this essay is that the progress of technology would be much faster if the hoops lawyers and politicians make for inventors to jump through were either abolished or made easily navigable by a low income inventor. And there is much to recommend this over the present system. Why should private inventors pay up front without reward to benefit the entire society while the patent-lawyers and other legal personnel have guaranteed incomes from the system? It merely confirms what statistics showâ€"that Chinese and Japanese systems have a far greater representation of engineers in their government than we do. We have lawyers instead, and are not doing too well for it. Those few most lucrative patents will still benefit their inventorsâ€"but unlike now the expense of paying for the patent system would go to the true benefactor other than the patent law system â€"society. But what of the prospect of actual comprehensive patent reform? Consider the thesis advanced in The Public Domain: Enclosing the Commons of the Mind â€" Chapter 3: The Second Enclosure Movement http: But let a commoner steal something and he is locked up. Chapter by chapter or whole free PDF. Read The author would probably be happy if you wanted to buy a paper copy. Brian will probably be happy to put an Amazon link here. This is pretty close to the definition of rent-seeking. Remember however that the purpose of patents is to maximize innovation the raw material of technical progress and the return to society by giving incentive to inventors to create, not by making a permanent aristocracy of people who at one time contributed something useful. Because if such an entitled group is allowed to ariseâ€"as it lately has been in the process of doingâ€" technical progress, the subject matter of this blog, is in for rough times. Always the advocate of unlimited patent rights aims the income stream to his door, never to the door of the heirs of the hundreds of generations of dead inventors who preceded him and provided the very foundations of his new invention by their older inventions. It is difficult to conceive of an Internet without reliable electronics, and to conceive of electronics without harnessed and reliable electricity But the rent-seekers ignore the debt they owe to the past; all debts are owed only to them, and payment will be assured by an arrangement with the legislature. The rent-seekers also ignore the debt they owe to the futureâ€"that they are just a link in the chain of generations, that they have no right to stop unseen levels of future progress by building a dam on the river of invention and holding things upstream by putting a check on progress.

## Chapter 6 : Patent Nonsense - some problems with the current Patent Copyright and IP system - blog.quin

*Get this from a library! Biopatenting the splice of life: a consideration of the interface between biotechnological inventions and patent law. [Judith Ann Thomson; University of Western Australia.*

Mae-Wan Ho and Dr. Lim Li Ching reports on this landmark decision and its wider implications. Researchers inserted a cancer-promoting gene oncogene into fertilised mouse eggs, producing transgenic mice more susceptible to tumours, thus facilitating clinical work and faster experimental results for cancer research. The oncomouse was patented in the US in , and has patent protection in Australia, Japan and several European countries. The patents give Harvard exclusive rights to create the mice and charge licensing fees for their use. The "invention" is licensed to Du Pont, which sells the mice to research labs. In its application, Harvard sought to protect both the process by which the oncomice are produced and the end product of the process, i. The process and product claims extend to all similarly altered non-human mammals. Canada allows single-celled organisms, such as yeasts and bacteria, and GM crops to be patented. It also allows patents for modified human genes and cell lines. Harvard had obtained a patent on the oncogene and related process claims from the Canadian Intellectual Property Office in - but not on the mouse itself or its offspring with the oncogene. In however, the Federal Court of Appeal overturned the trial judge and concluded that both the process and the mouse could be patented. It ruled by that a living mouse cannot be patented, even if its genes are genetically modified. It said the mouse fails to meet the definition of an invention. The Canadian Patent Act defines "invention" as "any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter". The Supreme Court confined itself to debating whether the words "manufacture" and "composition of matter", within the context of the Patent Act, are sufficiently broad to include higher life forms. The Court ruled that the mouse is not a "manufacture", as that denotes a non-living, mechanistic product or process. The judges conceded that the year-old Patent Act is simply inadequate to address the complex ethical and legal questions. The judges decided that the unique ethical issues posed by genetic engineering of complex animals and plants are such that no higher life forms should be patented in Canada until Parliament debates the issues and passes laws specifically designed to address this rapidly developing realm of science. One of the dissenting justices, Ian Binnie, dismissed the prospect that allowing the patent on the Harvard mouse would open the door to patenting humans, saying that the Canadian Charter of Rights would prohibit ownership of human beings for commercial purposes. He claimed it ludicrous that Canada should stand alone in refusing to grant patent protection to Harvard. But Justice Bastarache warned that the issue of human patenting is complex and cannot be readily dismissed by reference to the Charter. He said that it would be inappropriate for the courts to create an exception from patentability for human life, given that this requires consideration of what is human and which aspects of human life should be excluded. Accordingly, he recommended that Parliament deal with the "increasingly blurred line between human beings and other higher life forms". The ruling was devastating for numerous Canadian companies awaiting patents on plants and animals. They claim that it threatens to stifle biotechnological research in Canada, by depriving researchers of legal protection for their inventions. Harvard denounced the decision, saying, "Canadian scientists are at risk of being left behind their colleagues around the world". It urged Parliament to change Canadian law to enable patenting of the mouse and in general non-human higher life forms, except where society makes such research illegal. The inability to receive life form patents "could create a chilling effect on scientists doing research here". But evidence shows that patents sometimes actually deter innovation. Inventions that involve many patented components as biotech usually does divert time and money from innovation into negotiating - and often litigating - licences and royalties. Patent holders may use patents strategically to prevent competitors from developing new products. Ironically, leading US cancer researchers charge that the meddlesome licensing policies of DuPont which holds exclusive rights to the oncomouse are deterring scientists from researching with the oncomouse. Patents on life forms could foreclose opportunities for research and product development to non-patent holders. While this potential is inherent in patent systems, the impact may be more significant for biotechnology products. Access to basics

such as DNA sequences, cell lines, plants and animals at reasonable cost, is crucial. High research costs can drive up the price of the end product, many of which are important for public health needs. Mechanisms other than the patents can still encourage real innovation. The ramifications of this judgement on the patenting of GM crops and other life forms remain to be seen. Phillipson argues that patents on life forms until now have covered events within cells, while the resulting life form has not itself been patented. The government plans to consult its citizens and the Canadian Biotechnology Advisory Committee CBAC , an expert panel that advises on biotech issues, before deciding what to do. It has now renewed calls for Rock to revamp the Patent Act so that it permits patents for all higher life forms except humans and foetuses. As the issue is hotly debated in Canada, implications on developing countries should also be considered. The Canadian Catholic Organization for Development and Peace asserts that banning life form patenting in Canada will stop Canadian patents on seeds of staple food crops. It said, "The Supreme Court decision should be a signal to the government that Canada must use its influence within the World Trade Organization to support developing countries in their efforts to resist pressure to allow patents on seeds and other life forms". The Africa Group in the WTO has already recognised the serious implications patents on life forms would have on the rights of local communities to food security. It proposed in , and again in , that the mandated review of Article  Comment Comment on this article.

## Chapter 7 : China v US: what can be patented in the life sciences field?

*Patenting of Transgenic Organisms sponsored by the National Agricultural Biotechnology Council and the Center for Biotechnology Policy and Ethics at Texas A&M University. 1 See EDWARD O. WILSON, THE DIVERSITY OF LIFE (); Paul R. Ehrlich & Edward.*

## Chapter 8 : What Are the Different Types of Patents? | blog.quintoapp.com

*It urged Parliament to change Canadian law to enable patenting of the mouse (and in general non-human higher life forms, except where society makes such research illegal). Canada's national association of biotechnology research companies echoed Harvard's warning.*

## Chapter 9 : UK Patents - The Basics - Mewburn Ellis

*Patenting of Biological Life Forms A patent gives the holder exclusive rights to benefit from his or her innovation for twenty years. Some things, like products of nature and physical laws, are not patentable, and others, such as plant hybrids, are.*