

Patenting Lives: Life Patents, Culture and Development

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Now, who is better able than scientists to make the world speak, write, hold forth? Their work consists precisely in inventing, through the intermediary of instruments and the artifice of the laboratory, the displacement of point of view that is so indispensable to public life.¹

This book, *Patenting Lives: Life Patents, Culture and Development*, is part of the Patenting Lives Project, which attempts bridge the gap between patent law and the public interest.² The objective of this book and of the project in general is to facilitate the public's reaction to life patents and to recognize the relationship between "public perceptions, the creation of the market, and environmental questions."³ The arguments and points of view presented in this book are a reminder that "technology is cultural, and that those with the greatest means, and those with the authority over the means of production, will have a significant role in the cultural life of citizens."⁴

Life patents are the result of the Agreement on Trade Related Aspects of Intellectual Property (TRIPS) mandating patent protection on emerging and unregulated fields, such as biotechnology, and may include inventions based on gene sequences or whole organisms. This patent revolution on the chemical makeup of living organisms is relatively new and ripe for critical analysis.

¹ Johann Gibson, *Patenting Lives: Life Patents, Culture and Development*, 1 (2008). See also, B. Latour, *Politics of Nature: How to Bring the Sciences into Democracy*, C. Porter (trans) (Cambridge MA: Harvard UP 2004), 137-8.

² Patenting Lives Project, available at: <http://www.patentinglives.org/>.

³ Gibson, *supra* note 1, at 6

⁴ *Id.*

Patenting Lives takes on five different aspects of the life patent development and uses scientific, cultural and economic perspectives to fashion its arguments. Four of the five sections contain two chapters, each written by a different author. In essence, this book is a collection of essays touching on distinct facets of the life patent revolution. The book utilizes laws, precedent, and points of view from Western societies such as the United Kingdom, Canada and the United States, but also compares and contrasts these views and beliefs with less developed nations such as Thailand, African countries and Nepal. These views express a dichotomy present in life patents (and patent law in general), which turns out to be an argument centered on rich versus poor, materialism versus sanctity, and profit protection versus autonomy. Each chapter focuses on these schools of thought by analyzing arguments on either side with a slant towards a specific thesis.

In the first section, *Patenting Lives* erects a legal framework on which the rest of the book will rely. The author of this chapter, Tony Howard,⁵ does not specifically address life patents, but outlines a legal background as to availability, scope and use of patents, and reveals the way in which international patent agreements translate into a national practice. Intellectual property rights on living material have roots dating back to the nineteenth century in the Paris Convention, where certain living materials (tobacco, fruit, cattle, etc...) were considered industrial property. This evolved into the 1998 European Directive on the Legal Protection of Biological Inventions (The Directive). Howard's chapter centers on Article 3(1) of the Directive which states that, "inventions which are new, which involve an inventive step and which are susceptible of industrial application shall be patentable even if they concern a product consisting of or containing biological material or a process by means of which biological material is

⁵Gibson, *supra* note 1, at vii. (Tony Howard is a Cambridge University graduate and is now a member of the UK Intellectual Property Officer (UK-IPO) working EU patents, public policy, and other intellectual property law).

produced, processed or used.”⁶ The directive provides specific criteria in order to patent biological material, which in turn creates a strong and predictable legal framework.

Section 2 focuses on human rights and the ethical frameworks involved in life patents. Kathryn Garforth⁷ and Adejok Oyewunmi⁸ tackle this section. Garforth’s chapter centers on the ethical concerns surrounding the patenting of genetically modified organisms (GMO). These concerns are typified by the clash between materialists and vitalists. Materialists believe that science can ultimately explain everything, including life, while vitalists believe in some kind of vital force that gives a being its life. Garforth suggests that materialists and patent law have reduced the complexity of life into a few chemical descriptions creating the false impression that we have a complete grasp on what creates life. This reduction forces patent law to bend to the will of the materialists, ultimately allowing patents on otherwise non-patentable material.⁹ Oyewunmi’s chapter focuses on the creation of life patent law by developed nations and the inherent unfairness this creates for developing African nations. As a developing country with little to no scientific or technological capabilities, Africa is marginalized in the globalization process and does not receive the benefits biotechnology patents have to offer. The continent is rich in biological resources and traditional knowledge (TK), which is then manipulated by those with the power to control patent law. Oyewunmi argues that the human rights and intellectual property communities must work together to achieve a fairer, more balanced system. He argues

⁶ Gibson, *supra* note 1, at 12. *See also*, Patents Act 1977 (c. 37) (UK). (Providing definitions for novelty, inventive step, and industrial application).

⁷ Kathryn Garforth is the legal Officer for the Biosafety division of the United Nations Secretariat of the Convention on Biological Diversity.

⁸ Adejoke Okewunmi is a barrister and solicitor of the Supreme Court of Nigeria, as well as a senior lecturer in the Department of Commercial and Industrial Law, Faculty of Law, University of Lagos.

⁹ *See, Re Bergy*, 563 F.2d 1031 (CCPA 1977, vacated, 438 US 902 (1978)). In this case the patent examiner denied a patent to a micro-organism because it was a product of nature and therefore not novel. The Court of Customs and Patent Appeals stated that just because the organism is alive does not make it non-patentable, furthermore, the “nature and commercial uses of biologically pure microorganisms are more like inanimate chemical compositions, than they are like horses, honeybees, or raspberries and roses.” *Id.*

that “this system must include safeguards to protect public interest, especially in places where the people are weak and vulnerable.”¹⁰

The third section, with chapters from Luigi Palombi¹¹ and Anglea A. Stanton,¹² deals with the ethical and economic complications facing life patents in the public health sector. The ideas in Palombi’s chapter focus on the complications in granting patents on naturally occurring biological materials, such as an isolated genetic sequence of a natural gene or a protein. While these materials are hardly novel, their isolation from the body or creation in a laboratory are substantial scientific steps. Novelty is a necessary aspect in creating a patent; however, some countries have found ways to grant the patents while stretching the idea of novelty by granting absolute and conditional genetic patent claims. Absolute claims give patent rights to the cut and spliced bits and pieces of the naturally occurring biological materials.¹³ These are nothing more than the rights to the genetic material themselves, un-patentable to anyone else. Conditional patent claims give rights to a certain process and use of a gene. The problem is that genes are used in very broad ways such as replicating, where a laboratory created gene will replicate itself into an identical copy of the natural occurring gene thus the grant, in essence, grants a patent on the naturally occurring gene.¹⁴ Palombi suggests that a better alternative is the creation of a Genetic Sequence Right. Under this system a patent would be granted to the “first person to file

¹⁰ Gibson, *supra* note 1, at 72. *See also*, J. Oloka-Onyango and D. Udagama, “The Realization of Economic, Social and Cultural Rights: Globalization and its Impact On the Full Enjoyment of Human Rights”, Sub-Commission on the Promotion and Protection of Human Rights, (June 15, 2000). This essay states that human rights needs to be brought into the globalization debate and they need to be considered in the policy consideration of those who formulate the policies and operate the institutions that are at the forefront of globalization.

¹¹ Gibson, *supra* note 1, at viii. Luigi Palombi is an intellectual property attorney specializing in patents over biological materials and their application in human diagnostics, therapeutics and pharmaceuticals.

¹² Gibson *supra* note 1, at xi. Angela A. Stanton PhD is Assistant Professor of Economics at the Argyros School of Business and Economics at Chapman University and a research scientist at the Center for Neuroeconomics Studies at Claremont Graduate University.

¹³ Gibson *supra* note 1, at 77. *See also*, Chiron Corporation, Australia Patent 624, 105 (1991). (Granting a patent to the create hepatitis C virus).

¹⁴ Gibson *supra* note 1, at 80-81. *See also*, Kirin-Amgen, European Patent 148 305 (2004). (Granting a patent on the use of human erythropoietin gene in the specific process of using host cells to replicate).

and disclose a genetic sequence defining genetic material of any origin and explaining its function and utility.”¹⁵ This information would be put in a database and, for a fee, these genetic materials could be used in any process, creating a more flexible and manageable system.

Ms. Stanton’s chapter is a testament to why our bodies (contrary to popular belief) are our property. She uses the case of *Moore v. Regents of University of California* as a foil.¹⁶ In this case, a doctor used a patient’s genetic material without consent in order to create a profitable new drug. In a confusing and complicated ruling, the court held that once the genetic material was taken from the patient’s body it was no longer his. According to Stanton, the effect of this ruling is to protect the pharmaceutical industry at the expense of a person’s bodily rights. She concludes that we must declare that the entire body is the property of the person, that the legal system must gain an expertise in this field, and that strict oversight needs to be implemented at research institutions.

The erosion of traditional knowledge (TK) in underdeveloped nations is the focus of the fourth section. Here, Daniel Robinson¹⁷ discusses the patent law power of developed nations is overshadowing the TK rights of places such as Thailand, and Chika B. Onwuekwe¹⁸ develops the debate over higher and lower life forms in the patent law arena. Robinson defines TK broadly; an evolving and dynamic knowledge that a group of people possess pertaining to practical nature and use to sustain and improve their lives. Through loose patent laws and an unequal balance of power, developed nations have been pirating the biological resources and the TK of underprivileged nations. Weaker nations do not have the ability or knowhow to patent

¹⁵ Gibson *supra* note 1, at 92.

¹⁶ *Moore v. Regents of University of California*, 51 Cal. 3d. 120 (1990).

¹⁷ Gibson *supra* note 1, at ix. Daniel Robinson is lecturer in environment and geography at the Institute of Environmental Studies, the University of New South Wales.

¹⁸ Gibson *supra* note 1, at vii. Chika B. Onwuekwe is a consultant and attorney-at-law and is an Associate at MacPherson Leslie & Tyerman LLP.

this valuable knowledge leaving it ripe for exploitation. An example of this is a case from Thailand involving the plant based chemical extract Plao Noi. A Japanese company patented the extract for the treatment of ulcers, based on traditional Thai knowledge. An official of the Thai Royal Forestry Department provided consent for this action, resulting in inadequate benefit flows to the indigenous people (keepers of this knowledge) while the company reaped all the rewards.¹⁹ This type of exploitation leads to animosity from the indigenous peoples of these nations, giving them a cynical outlook towards the modernized world. Robinson calls for the governments of both the developed and underdeveloped nations to step up patent law mechanisms to protect and respect TK.

In his chapter, Onwuekwe describes the development of life patenting using two Canadian Supreme Court cases.²⁰ These cases show the progression of the Courts; in the earlier case, the court seems to be more rigid and refuses to allow patent rights to “higher life forms,” but then turns 180 degrees dropping this restriction and adopting a more liberal approach to life patents. This shift has dire consequences to the much more conservative third world nations who reject life patenting. While the developing nations see their genetic resources and the TK that goes with it as un-patentable, the developed nations have no problem using it for themselves leading to exploitation and animosity. Onwuekwe suggests that the developing nations need to fight back through multilateral negotiations in a forum such as the World Trade Organization and attempt to reach an agreement that will secure their interests in protecting TK while still allowing the other nations to develop these resources.

The final chapter discusses agriculture, which is both one of the most critical fields and an area where views of biotechnology experience extreme cultural and developmental

¹⁹ Gibson *supra* note 1, at 126.

²⁰ See, *Harvard College v. Commissioner of Patents*, 4 S.C.R. 45 (2002) and *Monsanto Canada Inc. v. Schmeiser*, 1 S.C.R. 902 (2004).

differences. Diwakar Poudel²¹ and Fred Hakon Johnsen²² analyze the relationship between farming and conservation in Nepal while Dwijen Rangnekar²³ brings together economic and socio-political concerns on the issue of exceptions to agriculture patents. Poudel and Johnsen did a study in Nepal contributing to the debate on agriculture and conservation and why plant standards of protection for plant breeders should be delinked from the standards that protect other living material. This study looks at the issues from both an academic European context and a national non-governmental perspective. The study shows that the willingness of Nepalese farmers to pay for conservation projects and the community gene banks is instrumental to the preservation of their crop's genetic material, and allows them to play a significant role in the direction of conservation. Rangnekar writes that plant breeders' rights have become an exception to the traditional patent law rules. Plant breeders on their own have achieved a new multilateral treaty for the protection of new plant varieties and have lowered the bar when it comes obtaining patents. Because of these lowered standards, the author suggests that society cannot use plant breeders as an uncontested indicator of inventive activity.

This book seems daunting at first, but each author recognizes that not all the readers are experts and take time to, first, explain the science thoroughly to create a clearer picture, and then apply this science to the morality and logic of patent law. In each chapter, the authors reveal a piece of the fragile connection between patent law and society. Anyone interested in an in-depth look at life patents, their evolution, and their effect on the world would be interested in *Patenting Lives*.

²¹ Gibson *supra* note 1, at viii. Diwakar Poudel is working for Local Initiatives for Biodiversity, Research and Development in Nepal.

²² Gibson *supra* note 1, at vii. Fred Hakon Johnsen is Associate Professor in the Department of International Environment and Development Studies, Norwegian University of Life Sciences, Agricultural University of Norway.

²³ Gibson *supra* note 1, at viii. Dwijen Rangnekar is a Research Councils UK Senior Fellow at the University of Warwick.