

Neo-Liberalism, Property and the Public Domain

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Part 2

Intellectual Property Law as a Prime Agent of Privatization, and Challenge for the Public Domain

Intellectual Property Law and Liberal Capitalism

As we have noted, intellectual property jurisprudence represents a paramount institutional challenge to be grappled with by those who wish to strengthen the public domain against encroaching privatization. Encompassing, at its heart, the property rights surrounding trademarks, copyrights, patents, and trade secrets, intellectual property law is fused together, at the level of its Renaissance– and early modern–era genealogical foundations, with “the early stages of capitalism.”¹ As if by a metaphysical sleight-of-hand, this area of law effectively reduces, to the corporeal form of property and commodities, multiple manifestations of an essentially intangible entity, knowledge. In the process, intellectual property doctrine acts as a prime, institutional agent for “protect[ing] the legitimacy and intellectual suasion of the liberal world view.”² It achieves this by converting the nebulous phenomena of knowledge and creativity into concrete, economic existents, and, therefore, by “treat[ing]...knowledge as atomistic bits of information to be made useful and profitable.”³

The profound degree to which intellectual property law exemplifies liberal capitalism’s proprietarization and commodification of all the things of the world is ever more revealed where the patenting of biological – especially human – life is concerned. Consistent with today’s ongoing debate over issues involving the biotechnological manipulation of the genes animating human, biological life – from reproduction that is carried out with the aid of genetic engineering, to stem cell research, to human cloning – there now is an abundance of literature grappling with the daunting matter of how legal regimes should seek to regulate the various activities of this ambitious and profitable domain of “Techno-science.”⁴ A chief concern with which this literature is compelled to wrestle is whether it is legally legitimate, and ethically appropriate, for patents in genetic material to be granted to parties responsible for producing biotechnologically manipulated human genes, or for decoding genetic information in the pursuit of, for example, pharmaceutical development.⁵

As one might imagine, given the enormous, present fluidity of biotechnological research and innovation, legal doctrine concerning the patenting of human genes remains quite unsettled and malleable. For example, in the US, “there have been patents issued on modified human tissues and cell lines, and DNA molecules of human origin.”⁶ However, in 2004,

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Congress enacted a measure effectively prohibiting the issuance of patents on human organisms. The Consolidated Appropriations Act of 2004 provides, “None of the funds appropriated or otherwise made available under this Act may be used to issue patents on claims directed to or encompassing a human organism.” [Pub. L. No. 108-199, 118 Stat. 3].... [T]he manager’s statement for this amendment points to a June 22, 2003, colloquy wherein Rep. David Weldon (the amendment’s sponsor) assured Rep. David Obey (the ranking minority member of the House Committee on Appropriations) that the amendment “would not interfere” with any existing patents on human genes or human stem cells. Weldon further noted that the purpose of the amendment was to affirm that “human life in any form should not be patentable.” The Weldon Amendment thus proscribes the patenting of human organisms at any stage of development.⁷

Although, as we will see in further detail a bit later, the developing legal framework in this area was given a powerful, initial thrust in the direction of privatization in the US Supreme Court’s watershed 1980 decision, *Diamond v. Chakrabarty*, which established that it is legitimate for a living organism to be patented.⁸ Under this ruling, all that is required is a demonstration that the party seeking the patent did not merely make a “discovery...[of] nature’s handiwork”; but, rather, created by his or her own invention a distinctive organism that is “non-naturally occurring”.⁹ The Canadian Patent Office “followed suit in 1982, listing human-made items it thought were now patentable”, from “micro-organisms,” to, potentially, “higher life forms such as plants or animals”.¹⁰ With *Chakrabarty’s* having “laid the all-important legal groundwork for the privatization and commodification” of the genetic material composing the Earth’s flora and fauna, the extension to human genes of the decision’s line of reasoning would not be inconsistent with modernity’s biotechnologically aided “global economic rationalizing of [human] life.”¹¹ The reduction of human, biological life to an object of instrumental manipulation, and, following this, commodified property, while profoundly troubling to many at the visceral, intellectual, and spiritual levels, may yet be in the process of emerging as the demonstration *par excellence* of a neo-liberal worldview that strips down all of existence to amalgamations of atoms that can be scientifically known, technologically controlled, and economically ordered.

The Current Expansion of Copyright Protection

Two subsets of intellectual property jurisprudence are, for our purposes, exceptionally revealing: copyrights, to which we already began to make detailed reference in Part 1; and patents, whose uniquely pervasive significance has just been introduced into the discussion. Let us begin by traversing the relatively circumscribed terrain of copyrights.

In recent years, a number of commentators on copyright doctrine have criticized what has become an unprecedented expansion of the principles and mechanisms of copyright protection, whereby this field of intellectual property law now reaches into every venue sustaining public discourse and information exchange, artistic expression, and scholarly research.¹² As an illustration of the harmful consequences that may be interpreted as flowing from the current expansion of copyright protection, consider an example provided by Corynne McSherry, which cuts especially close to the bone for those participating in academic life:

Viewed through this lens [viz., the increasingly prevalent lens that perceives intellectual property law, particularly copyright doctrine, as an appropriate mechanism for governing the putative “cognitive property” produced in the academy], academic research looks like

a matter of individual inspiration and labor; pedagogy like an equally individualized one-way activity; the university like a fully autonomous corporation; and professors like Hollywood actors. More generally, the conflation of property rights and “academic rights” participates in a set of discourses which offer to replace the hierarchies of the academy with the inequalities of the free market, discourses in which freedom can only be understood to mean “individual free enterprise.” In this emergent property story, academic freedom is simply the “right of self-interest,” and the “self” in question is an individual, rather than a disciplinary community. In retelling this tale academics risk losing a language for talking about knowledge as other than private property and the university as other than economically “useful.”¹³

Overall, as Siva Vaidhyanathan also has gone on to suggest, US “copyright discourse”, in particular, has become obsessed with injecting “property talk” into the juridical and political calculus of how to ensure that individuals gain the protection of an economic interest in the fruits of their creative work.¹⁴

On the view of such critics of current copyright policy as McSherry and Vaidhyanathan, the extension of copyright doctrine within a privatizing vein threatens, rather than promises to protect, virtues like creativity within the public sphere, and a fertile, communally shared pool of knowledge and information. Employing an evocative metaphor, Robert Boynton observes how these critiques point to the need for a “digital environmentalism” that, in Boyle’s words, protects this public bounty from “an exponentially expanding intellectual land grab”.¹⁵

It is revealing to focus on some of the specific sorts of intellectual and cultural phenomena that are, as a result of the spreading reach of copyright law, more and more being converted to the form of material property. A chief type of phenomenon that is undergoing such a conversion consists of ideas themselves; this follows, on Vaidhyanathan’s reading, from the emerging dissolution of “the idea/expression dichotomy.”¹⁶ As a foundational principle of modern copyright doctrine, “the idea/expression dichotomy” holds, in sum, that “copyright protects only a work’s expression, not its underlying ideas.”¹⁷ Inasmuch as “ideas...are the taproot of all creativity”, copyright law traditionally has maintained that a novelist, playwright, moviemaker, composer, and so forth, is free to draw on the ideas of others, so long as he or she does not plagiarize the terms in which these ideas have been expressed.¹⁸

In pointing out the danger increasingly posed to “the idea/expression dichotomy” a juridical maxim that is vital in helping to maintain a public ethos which encourages authorial and artistic creativity Vaidhyanathan singles out such examples as today’s rising effort to place stringent copyright protection, within US as well as European Union and international law, on computer databases. As he explains, this initiative towards “bottling up information” would break down the line between idea and expression, by encasing within the bounds of copyright protection such conceptual material as, for instance, the intellectual reasoning that is embodied in a database’s categorization of historical facts in one or another fashion.¹⁹ Echoing McSherry’s concerns about the oppressive intrusion of copyright doctrine upon the academy, Vaidhyanathan demonstrates that this particular manner of reifying ideas as commodified, private property would especially threaten the pursuit of scholarly research. Moreover, given that such databases originate largely from within highly computerized, Western nations, and, with this, fall often under “rich and powerful” corporate ownership, peculiar detriments have been emphasized by “representatives of underdeveloped nations who are concerned by the concentration of database

access in western [*sic*] nations”.²⁰

Copyright Doctrine and Indigenous Cultural Artefacts

The matter of relations between Western and non Western nations draws to the fore a further, illustrative context in which the ongoing expansion of copyright doctrine serves to help reify intangible phenomena as material property. Often (as we will see in further detail later), analyses of the contentious interplay occurring among indigenous communities, Westerners, and intellectual property regimes concentrate on how patent law can be interpreted as a mechanism for facilitating the Western appropriation of such embodiments of indigenous knowledge as agricultural and botanical expertise pertaining to plants and seeds. Similarly in keeping with keen, current scholarly interest in the conditions of post colonial cultures and societies, recent literature also examines how copyright doctrine factors into efforts by various indigenous populations to regain control over cultural and religious artefacts of theirs that had been appropriated by colonizers.²¹ In a variety of nations, especially common law states such as Australia, and the Anglophone portions of Canada, the inexorable predominance of modern, Western law has prompted indigenous communities to turn to copyright regimes as a basic, practicable means of “argu[ing] for control over cultural resources they define as uniquely theirs.”²² Such resources include, for example, narratives, songs, pictorial creations, and ceremonial items that had been appropriated and reproduced by Westerners, ranging in identity from writers, to government agencies, to corporations.

However, some troubling, interconnected paradoxes and ironies are pointed up by these indigenous communities’ efforts. To begin, the reification of knowledge and creativity as tangible, private property that is demanded under the basic premises of modern, secularist, intellectual property jurisprudence often is at odds, at the most fundamental, epistemic level, with the non materialist forms in which indigenous artefacts were created, and continue to be envisioned. Thus, even as indigenous leaders have sought, for the sake of reclaiming and retaining their heritage, to reconcile themselves to the counterintuitive metaphysics of modern, Western, intellectual property law, they have encountered a measure of juridical resistance to offering copyright protection for “‘intangible’ property such as oral narratives”.²³ Similarly, indigenous claimants asserting that their cultural artefacts must be maintained under the custodial care of a community have sometimes found that this position does not square with the individualism of copyright doctrine. In sum, the implicit presupposition of intellectual property law that “knowledge...[is] a commodity, a neutral object with no connections to persons except as a source of profit” is utterly inimical to various indigenous groups’ worldviews.²⁴ Rather, these worldviews often give rise to the understanding that:

Knowledge is a gift from nature, possible only within a set of relationships based on respect. Rejecting the view of knowledge as property to be acquired, sold, or stolen, in favor of viewing knowledge as a gift encourages attention to the relationships that exist among knowers and those who wish to know.²⁵

Within a recent, ground breaking book of his, Michael Brown cuts to the heart of this matter in a chapter whose name, ‘Native Heritage in the Iron Cage’, aptly alludes to the social and political theoretician Max Weber’s classic critique of modern rationalism.²⁶ Targeting, in particular, a 1997 United Nations document which advocates an approach that he terms “Total Heritage Protection”, Brown cautions against strategies for the facilitating of indigenous control

over their cultural artefacts that, however well intentioned, risk illegitimately constricting Aboriginal traditions within the bounds of rationalist, Western administrative frameworks for cultural protection, such as copyright doctrine.²⁷ He summarizes:

In their struggle for just and dignified treatment of cultural productions, native communities face formidable opposition, including corporations committed to the privatization of knowledge in its multiple forms. Total Heritage Protection is seductive because it promises a legal framework strong enough to counterbalance these forces. Yet it is a totalizing model, and such approaches have a disturbing tendency to reshape the world in unforeseen and harmful ways. In this case they are likely to foster bureaucratized and lifeless cultures that operate by a proprietary logic perilously close to that of the corporations they seek to resist.²⁸

Colonialism and the History of Patents: The West's Reduction of Indigenous Knowledge to Commodified Property

The historical development of modern patenting systems, which are commonly understood to serve the purpose of “stimulating and rewarding inventions and innovations”, has proceeded in intimate connectivity with the growth and geographic spread of modern capitalism, industrialism, and technology.²⁹ Singularly illustrative for us in this connection is the integral fashion in which patents have served to further the economic and strategic interests of “industrially advanced countries”, particularly “imperial powers...[such as] Britain, France, Belgium, the Netherlands, Portugal, Spain, Italy,...Germany”, and, not least, the US.³⁰ Specifically, this role played by patents has had significant importance for the history of colonialism.

As Vandana Shiva suggests, the history of patenting doctrine is, in a chief respect, simultaneously the history of how patents have been used by “Western powers” to appropriate, and “to protect this piracy of”, indigenous knowledge concerning biological organisms.³¹ She demonstrates how the Western “colonizing impulse to discover, conquer, own, and possess everything,” including “every society, every culture”, has played out in a long running, colonial effort to reduce indigenous knowledge of the natural world to Western held, commodified property.³² In the process, Western powers have sought not merely to enhance the immediate, material benefits that accrue to them as the result of their patent aided “biopiracy”, but also to ensure the transformation of colonial economies into subsidiary markets that the West can dominate for its long term gain.

“Patenting Life”: The Newly Prevalent Form of Patent Aided Colonialism³³

As Jeremy Rifkin asserts, during the present epoch of widespread genetic engineering,

[g]enes are the “green gold”.... The economic and political forces that control the genetic resources of the planet will exercise tremendous power over the future world economy, just as in the industrial age access to and control over fossil fuels and valuable metals helped determine control over world markets.... Multinational corporations and governments are already scouting the continents in search of the new “green gold,” hoping to locate microbes, plants, animals, and humans with rare genetic

traits that might have future market potential. Once having located the desired traits, biotech companies are modifying them and then seeking patent protection for their new “inventions.” Patenting life is [a key element] of [this] new operational matrix....³⁴

One may argue, then, along with Shiva, that a prime vehicle by which patent aided colonialism today continues to advance is through the ever more pervasive patenting both of indigenous knowledge in biological spheres including food, other forms of agriculture, and medicine; and of genetically engineered organisms, such as plants and seeds, whose original, natural elements have been appropriated from within the developing world.³⁵

A juridical instrument that proves pivotal in this connection is the *Agreement on Trade-Related Aspects of Intellectual Property Rights* (TRIPS), an international protocol administered by the World Trade Organization (WTO) that “[came] into force...in 1995”.³⁶ TRIPS grew out of international negotiations attendant to the *General Agreement on Tariffs and Trade* (GATT), and therefore also out of, in important measure, “the effective lobbying of industrial concerns, mostly in the United States”.³⁷ As a result of its markedly broad construction of what constitutes patentable material, the “patents section of TRIPS” has emerged as an ideological battleground.³⁸ Standing on one side of the debate are advocates who believe that the protocol’s roomy conception of patents is necessary for the establishment of a global intellectual property regime that privileges free trade. Rallying on the other side are critics, including “[r]epresentatives of many indigenous and traditional societies”, who caution that TRIPS promotes a “monopoly protection of products derived from communally-held resources...[that] is economically exploitative and morally and spiritually repugnant.”³⁹ Then, too, foes of TRIPS from within Western and indigenous communities alike assail the protocol on the grounds that its facilitating of “the patenting of genetically modified organisms (GMOs)” is conducive to “ecological damage and...prejudicial to human health or animal welfare”; and that its paving of the way for “the patenting of life-forms that is to say whole plants and animals, and functional or structural components of life-forms such as gene sequences, proteins and cells”, amounts to an ethical abomination.⁴⁰

The Legal and Intellectual Watershed Brought About by the Chakrabarty Decision

Within her forceful critique of TRIPS, Shiva makes the revealing assertion that the protocol has, in effect, “globalized US-style patent laws.”⁴¹ The results of this development are vast and profound:

The universalization of patents to cover all subject matter, including life forms, has resulted in patents invading our forests and farms, our kitchens, and our medicinal plant gardens. Patents are now granted not just for machines but for life forms and biodiversity; not just for new inventions but for the knowledge of our grandmothers.⁴²

As Shiva indicates here and elsewhere, a basic reason why “US-style patent laws”, in particular, should have such an effect is the consequential legacy of the *Chakrabarty* decision.⁴³

In an insightful new study, Steven P. McGiffen exhaustively demonstrates how the US, and, to a significant extent, Canada following it, diverge from the European Union in their “[lax]...regulation of biotechnology and its products”, an approach that is “bolstered by a patent system” increasingly non reticent towards the patenting of living organisms.⁴⁴ By contrast,

McGiffen maintains, the EU has demonstrated a somewhat greater degree of regulatory caution in these respects, earning it the ire of the US; this, at the same time as the EU assiduously supports the biotechnology industry in its purported position at “the centre of Europe’s economic future.”⁴⁵ Prior to *Chakrabarty* in 1980, a basic principle of US patent doctrine had been that “phenomena of nature” are non patentable elements of the commons, as it were.⁴⁶ However, the *Chakrabarty* court implied that the vital imperative whereby patenting offers economic encouragement for ingenuity demands “a broad construction [of patentable material]” that is unconstrained by a fixed ban on the patenting of natural phenomena. In this way, suggests Richard Gold, the court “turn[ed] a blind eye to noneconomic values”.⁴⁷ On this construction, human intervention into natural processes that is sufficient to reorder matter – including living, biological matter – into a unique arrangement that is the “product of human ingenuity” effectively acts to transform natural phenomena into “human-made inventions.”⁴⁸

Chakrabarty and Its Legal Ramifications in Canada

The facts of *Chakrabarty* were as follows: in the early 1970s, Ananda Chakrabarty, later to become an academic, was working as a staff microbiologist at the General Electric Company (GE) in Schenectady, New York.⁴⁹ Arising from his research at GE was a

human-made, genetically engineered bacterium...capable of breaking down multiple components of crude oil. Because of this property, which is possessed by no naturally occurring bacteria, Chakrabarty’s invention is believed to have significant value for the treatment of oil spills.⁵⁰

Following Chakrabarty’s application for 36 patent claims covering the processes and products surrounding his invention, a patent examiner rejected those of his claims asserting rights “to the bacteria themselves”, explaining that, as “products of nature,” and “living things”, the micro-organisms were “not patentable”.⁵¹ The patent examiner’s decision was upheld by the Patent Office Board of Appeals, but then reversed by the Court of Customs and Patent Appeals, “which held that “the fact that microorganisms ...are alive...[is] without legal significance” for purposes of the patent law.”⁵² Subsequent to a series of juridical procedures that led to this court’s decision being vacated, and then reinstated, the Commissioner of Patents and Trademarks, standing fast in opposition to the issuing of patent rights for Chakrabarty’s bacteria, was granted review by the US Supreme Court.

The Supreme Court held that Chakrabarty’s “micro-organism plainly qualifies as patentable subject matter.”⁵³ Informing its audience that, based on a reading of relevant legislative history, “Congress intended [potentially patentable] subject matter to “include anything under the sun that is made by man””, the Court went on to determine that the peculiar, “non-naturally occurring manufacture or composition of matter” created by Chakrabarty fell into this category.⁵⁴ Chief Justice Warren Burger explained:

...the patentee has produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility. His discovery is not nature’s handiwork but his own; accordingly it is patentable subject matter....⁵⁵

Consistent with McGiffen’s analysis above, Canadian jurisprudence has, to an important degree, although perhaps not to the extent of the US legal system, also followed along

with the broadening conception of patents signified by *Chakrabarty*. For example, in the well publicized case of *Monsanto Canada Inc. v. Schmeiser*, the Supreme Court of Canada held in 2004 that Percy Schmeiser, a Saskatchewan farmer philosophically opposed to the cultivation of genetically modified (GM) crop varieties, had nonetheless infringed on a Monsanto patent for “genetically modified genes and cells” contained in an herbicide resistant variety of canola (canola being “a valuable crop...used to make edible oil and animal feed”).⁵⁶ Although Schmeiser had never purchased the seed for this GM crop, nor the license necessary to grow it, Monsanto investigators found that a high concentration of the canola variety was growing on his farmland, thereby prompting Schmeiser’s assertion that the GM seed “was carried to [his] field without his knowledge”, perhaps from nearby farms, by the wind.⁵⁷ The Court rejected Schmeiser’s claim that, as a “higher life form”, the GM material was unpatentable in the first instance, responding that, under operative Canadian legislation, “an invention in the domain of agriculture is as deserving of protection as an invention in the domain of mechanical science.”⁵⁸ Moreover, the Court ruled that, despite Schmeiser’s argument that “he never took commercial advantage” of the crop’s special, herbicide resistant qualities, his act of cultivating the GM crop in the absence of sufficient, countervailing evidence that he did not actually intend to do so effectively infringed on Monsanto’s right to “the full enjoyment of their monopoly” on this agricultural creation.⁵⁹

It should be noted that Schmeiser, in arguing his case, had sought to rely on a 2002 decision of the Supreme Court of Canada, *Harvard College v. Canada (Commissioner of Patents)*, (commonly known in Canada as ‘Harvard Mouse’), in which the Court had refused Harvard’s request for a separate, Canadian patent on the OncoMouse.⁶⁰ In that decision, the Court ruled that, under Canada’s *Patent Act*, “higher life forms are not patentable”, with respect, potentially, to plants as well as animals.⁶¹ On the Court’s analysis, “a fertilized egg injected with an oncogene may be a mixture of various ingredients,” and could therefore be a patentable human creation, but “the body of a mouse” would not be similarly patentable, because it “does not consist of ingredients or substances that have been combined or mixed together by a person.”⁶² However, as the *Schmeiser* court indicated, and as several dissenting justices in ‘Harvard Mouse’ had argued in that decision, the 2002 Court’s basic admission of the patentability of a “fertilized, genetically altered oncomouse egg [that] is an invention under the *Patent Act*” hardly allows for a material distinction to be drawn between the egg, per se, and “the resulting oncomouse...that grows from the patented egg”.⁶³ In other words, once the invented egg is deemed patentable, there is no valid legal basis on which to deny a patent for the consequent, invented mouse.

Intellectual Property Law, and the Movement Towards a Privatized Model of Human Biological Material

The present neo-liberal age is marked by an overall “move toward the property model” of the human body, in jurisprudence as well as the civilization at large.⁶⁴ Certainly, *Chakrabarty* would appear to have acted as a prime catalyst for emerging efforts at converting human genetic material, in particular, to commodified property, as “[a]ttempts to patent human DNA rest legally on” that decision.⁶⁵ But the extent to which law has recently been tending to accede to the proprietarization of human biological entities even over just the past one to two

decades is markedly broadening.⁶⁶

Lori Andrews and Dorothy Nelkin have recently stood in the forefront of research demonstrating how the commodification of human tissue is emerging as a massive boon for corporate and other market based interests, acting with the explicit or implicit co-operation of the liberal state.⁶⁷ A good deal of this process of commodification has been facilitated by new developments in biotechnology, which have helped to foster the conversion to property of much human tissue beyond genetic material alone. As Andrews and Nelkin illustrate:

The business of human bodies is a growing part of the \$17 billion biotechnology industry comprising more than thirteen hundred biotechnology firms. Those companies extract, analyze, and transform tissue into products with enormous potential for future economic gain. Their demands for skin, blood, placenta, gametes, biopsied tissue, and sources of genetic material are expanding. The blood that we all provide routinely for diagnostic purposes is now useful for the study of biological processes and the genetic basis of disease. Infant foreskin can be used to create new tissue for artificial skin. Umbilical cords are valued as a source of stem cells—a substitute for bone marrow transplants. Eggs and sperm are bought and sold for both research and in vitro fertilization, and embryos have been stolen. Cell lines derived from the kidneys of deceased babies are used to manufacture a common clot-busting drug. Human bones, valued today as a means to study human history and satisfy curiosity, are stored in museums and sold in shops as biocollectibles. Human tissue such as blood, hair, and DNA is a medium for artists. And human DNA can even be used to run computers, since the four chemicals—represented by the letters CATG—provide more permutations than the binary code.⁶⁸

*John Moore v. The Regents of the University of California: The Notorious “Spleen” Case*⁶⁹

The 1990 decision of the Supreme Court of California in *John Moore v. The Regents of the University of California* has emerged as a prime precedent helping to foster a legal milieu within which it seems to be increasingly legitimate to conceive of numerous forms of human tissue as private, commodified property.⁷⁰ The background for the case began to arise in 1976, when Moore commenced treatment for hairy-cell leukemia at the Medical Center of the University of California at Los Angeles (UCLA). From that year through 1983, Moore’s treatment involved the withdrawing from his body of various tissue samples such as blood, bone marrow aspirate, skin, and sperm, and, as well, the removal of his spleen (which organ acted as the source of cells that would prove the basis for legal dispute). Moore had been told by his attending physician, Dr. David W. Golde, that these procedures were “necessary and required for his health and well-being”, and “were to be performed...only under Golde’s direction.”⁷¹ However, it was concealed from Moore that, at the same time, Golde and others “were conducting research on [his] cells and planned to benefit financially by exploiting the cells and their exclusive access to the cells by virtue of Golde’s ongoing physician-patient relationship.”⁷² As the court’s statement of facts observes, Golde and his colleagues “were aware that certain blood products and blood components were of great value in a number of commercial and scientific efforts and that access to a patient whose blood contained these substances would provide competitive, commercial, and scientific advantages.”⁷³

“Sometime before August 1979, Golde established a cell line from Moore’s T-lymphocytes (a type of white blood cell)”, which went on to become the object of a 1981 patent application filed by UCLA, “listing Golde and [researcher Shirley] Quan as inventors.”⁷⁴ The patent was issued in March 1984. Following a lucrative “[c]ommercial exploitation of the cell-line [that] was negotiated between the University and two biotechnology companies[,]...Moore discovered the uses to which his body tissue had been put and sued” the parties involved for causes of action including a breach of fiduciary duty, for not having informed him of these uses, and the tort (or civil wrong) of conversion.⁷⁵ Conversion, the court explained, “protects against interference with possessory and ownership interests in personal property.”⁷⁶ Thus, under this particular claim, Moore asserted that he had a proprietary interest in his cells that was violated by the “defendants’ unauthorized use”.⁷⁷

The court held that Moore had a legitimate cause of action for the fiduciary breach, but not for conversion. Under the court’s reasoning, any ownership interest that Moore might once have had in his cells was undone, in significant measure, by the fact that he “clearly did not expect to retain possession of [them] following their removal”.⁷⁸ Further, relying on *Chakrabarty*, the court determined that “the subject matter of the...patent--the patented cell line and the products derived from it--cannot be Moore’s property”, because this material comprised a patentable “product of ‘human ingenuity’” distinct from “the cells taken from [his] body.”⁷⁹ In other words, consistent with our earlier discussion of *Chakrabarty*, the Supreme Court of California effectively indicated in *Moore* that Golde and his colleagues had successfully transformed the natural material of Moore’s bodily tissue into a unique, human invention, which therefore served as the basis for a private property interest.

Moreover, the court went on to opine about the inadvisability, on policy based grounds, of extending the tort of conversion to scenarios analogous to those found in the *Moore* case; this, for fear that “disabling civil liability [might threaten] innocent parties who are engaged in useful activities, such as researchers who have no reason to believe that their use of a particular cell sample is, or may be, against a donor’s wishes.”⁸⁰ As the court detailed, sets of circumstances along the lines of those presented in this instance were becoming more and more foreseeable, given the accelerating development, to that date (and ever more so today, one might now add), of biotechnology and related medical research activities:

In its report to Congress, the Office of Technology Assessment emphasized that [u]ncertainty about how courts will resolve disputes between specimen sources and specimen users could be detrimental to both academic researchers and the infant [note the fascinating irony of this modifier, given the 2006 perspective from which I write these words! -AMW] of the biotechnology industry, particularly when the rights are asserted long after the specimen was obtained. The assertion of rights would affect not only the researcher who obtained the original specimen, but perhaps other researchers as well.

Biological materials are routinely distributed to other researchers for experimental purposes, and scientists who obtain cell lines or other specimen-derived products, such as gene clones, from the original researcher could also be sued under certain legal theories [such as conversion]. Furthermore, the uncertainty could affect product developments as well as research. Since inventions containing human tissues and cells may be patented and licensed for commercial use, companies are unlikely to invest

heavily in developing, manufacturing, or marketing a product when uncertainty about clear title exists.⁸¹

In the light of concerns such as those expressed by the Office of Technology Assessment, the court expressed its reticence to look with favour on claims such as Moore's allegation of conversion:

Research on human cells plays a critical role in medical research. This is so because researchers are increasingly able to isolate naturally occurring, medically useful biological substances and to produce useful quantities of such substances through genetic engineering. These efforts are beginning to bear fruit. Products developed through biotechnology that have already been approved for marketing in this country include treatments and tests for leukemia, cancer, diabetes, dwarfism, hepatitis-B, kidney transplant rejection, emphysema, osteoporosis, ulcers, anemia, infertility, and gynecological tumors, to name but a few.

The extension of conversion law into this area will hinder research by restricting access to the necessary raw materials....

The theory of liability that Moore urges us to endorse threatens to destroy the economic incentive to conduct important medical research. If the use of cells in research is a conversion, then with every cell sample a researcher purchases a ticket in a litigation lottery.⁸²

It readily follows from the court's line of reasoning that the *Moore* decision has stood to bolster the rising notion that human biological material can be successfully converted to commodified property, especially in the light of post *Chakrabarty* patenting doctrine. *Moore* is exceptionally significant for our understanding of the intensifying effect that neo liberalism has on law. A prime reason for this is the way in which the philosophical thrust of *Moore* weighs most in favour of biotechnological, industrial, and other business interests who would seek to benefit from the instrumental utilization of human tissue. This is as opposed to the decision's identifying of property interests that would privilege the person from whom the tissue was collected. As the court asserts, "While we do not purport to hold that excised cells can never be" the property of such a person, this sort of claim is strongly militated against by rationales like the public policy imperative to provide economic incentives for biomedical research.⁸³ In sum, then, the situation seems now increasingly to be that, as Andrews and Nelkin observe, "[t]he potential for profit from research on human tissue is turning people like John Moore into potential treasure troves."⁸⁴

The Signal Importance of Scenarios Involving the Formation of Life and the Genetic Engineering of Humans

Once we move on from fact situations like *Moore* to scenarios involving not merely the manipulation of pre existing human tissue but biotechnological intervention into the formation of life, the legal precepts become murkier while the religious and philosophical profundity of related discussions concerning privatization and the public domain becomes ever more pronounced. It is not only with respect to the genetic engineering of humans where relevant law is today in a state of ferment. For instance, as is pointed out in the earlier cited 2004 report

prepared by President Bush's Council on Bioethics, there is in the US, for one, a marked vacuum of cohering federal regulation on "[c]ommerces in gametes, embryos, and assisted reproductive services".⁸⁵ Accordingly, "the present regulatory system...sets no uniform, enforceable limits on the buying and selling of human gametes and embryos."⁸⁶

As we also indicated previously, upon arriving at what is today the immensely salient matter of the potential proprietarization and commodification of various embodiments and arrangements of human genetic material, we enter onto ground that is continually shifting in terms of the ongoing development of laws and policy statements. Moreover, this ground is covered with a multiplicity of contending rationales for scientific and economic "progress", vis-à-vis defenses for the "foster[ing] and encourag[ing] [of] respect for life".⁸⁷ However, even given the changeable and contested character of this ground, a provisional observation or two can be offered about the emerging lay of the land. For one, it does appear that, within the modern West as a whole:

Gene patenting has exposed a conflict and, possibly, an incompatibility in patent policy between the United States and the European community. Even though the former does not impose ethical constraints on the patentability of products, the latter does, with the consequence that what may be patentable in the United States may not be so in Europe.⁸⁸

Ari Berkowitz and Daniel Kevles build up to this assertion with the preceding explanation that,

[a]t the end of 1999, [the US Patent and Trademark Office] invited public comments on [what was at the time "its current policy on the patenting of genes and DNA sequences"] and subsequently received them from thirty-five individuals and seventeen organizations. Some of the comments were ethical...; some were legal or practical, raising objections, for example, to granting patents on DNA sequences such as ["expressed sequences tag[s]", or ESTs, a term for a kind of DNA sequence that establishes a gene's "unique identity"] by arguing that they should not be patentable because they exist in nature. In January 2001 the office found reasons to refuse to incorporate any of the comments in its policies. Indeed, its responses to the comments in effect promulgated a policy governing the patentability of genes and DNA sequences that is enormously broad.⁸⁹

The discrepancy between the US and Europe in law and policy concerning the patenting of human genes highlights a vital ideological and political-economic implication: namely, that US law, with its peculiar, modern, capitalist distillation of the common law's historical fixation on private property, tends especially to privilege unfettered, market dynamics over non economic, ethical considerations. Thus, within the present day US where it would seem that the dual forces of evangelical Protestantism (which, in at least one Baptist formulation, regards "DNA [as] sacred, inseparable in value from the image of the divine") and neo-liberalism have never been stronger conflicting impulses abound where the proprietarization of human genes is concerned.⁹⁰ On the one hand, we hear President George W. Bush propound, in the course of speaking out against the cloning of human embryos as a means of deriving stem cells for biotechnological research, that "Life is a creation, not a commodity."⁹¹ On the other hand, there is the framework established by such instruments of law as the legacy of *Chakrabarty*; and, from the same year as *Chakrabarty*, the Bayh-Dole Act (also referred to as

the Patent and Trademark Laws Amendment), a landmark piece of Congressional legislation that, by codifying “the explicit U.S. policy of allowing grantees to seek patent rights in government-sponsored research results”, is “predicated on the idea that the traditional concept of “ownership” has an important role to play in promoting the technological revolution.”⁹² The Bayh-Dole Act placed universities that receive US federal funds for such endeavors as biomedical research in the commercial business of pursuing huge patenting bounties for biotechnological development while at the same time granting the institutions wide latitude for determining what materials it is appropriate to patent. In this way, the Act helped to set in motion a process whereby there are relatively few legal restrictions on the patenting of genetic information and material such as DNA sequences and stem cells.⁹³

Whatever the precise extent to which the proprietarization and commodification of human genetic material has been, or promises to be, placed under the aegis of law, it is quite manifest that the overall movement towards a privatized model of human biological material is of immense significance for us. There hardly could be a more profound exemplification of privatization enshrined, than the notion that the human body is an utterly manipulable, material object, and is, as such, subordinate to the quasi divine power of the scientific mind, as exercised through the instrumentation of “genetic technologies”, to “[conquer] *fortuna* by technological mastery of nature,” and thereby to “seize hold of fate, destiny, luck, chance”.⁹⁴

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Endnotes

1. See Stephen B. Brush, ‘Is Common Heritage Outmoded?’, pp. 143-64 in Stephen B. Brush and Doreen Stabinsky, eds., *Valuing Local Knowledge: Indigenous People and Intellectual Property Rights* (Washington, D.C.: Island Press, 1996), p. 154 and *passim*; Stephen Gudeman, ‘Sketches, Qualms, and Other Thoughts on Intellectual Property Rights’, pp. 102-21 in *ibid.*; Ronald V. Bettig, *Copyrighting Culture: The Political Economy of Intellectual Property* (Boulder, CO: Westview Press, 1996), p. 11; and Rochelle Cooper Dreyfuss and Roberta Rosenthal Kwall, *Intellectual Property: Cases and Materials on Trademark, Copyright and Patent Law* (Westbury, NY: Foundation Press, 1996).
2. James Boyle, *Shamans, Software, & Spleens: Law and the Construction of the Information Society* (Cambridge, MA and London: Harvard Univ. Press, 1996), p. 49.
3. Cynthia Townley, ‘Intellectual Property and Indigenous Knowledge’, *Philosophy & Public Policy Quarterly*, vol. 22, no. 4 (2002), pp. 21-6, p. 23.
4. The quoted phrase is borrowed from Kate Cregan and Paul James, ‘Stem-Cell Alchemy: Technology and the New Philosopher’s Stone’, *Arena journal*, no. 19 (2002), pp. 61-72.
5. For an illustrative representation of this notably interdisciplinary body of literature, see, for instance: Gerard Magill, *Genetics and Ethics: An Interdisciplinary Study* (St. Louis: Saint Louis University Press, 2004); Leon Kass, ed., *Reproduction & Responsibility: The Regulation of New Biotechnologies* (Washington, D.C.: President’s Council on Bioethics, 2004), pp. 157-63 <www.bioethics.gov/reports/reproductionandresponsibility> (December 31, 2004); David Magnus, Arthur Caplan, and Glenn McGee, eds., *Who Owns Life?* (Amherst, NY: Prometheus Books, 2002); Margaret Davies and Ngaire Naffine, *Are Persons Property?: Legal debates about property and personality* (Aldershot, UK: Ashgate, 2001); Lori Andrews and Dorothy Nelkin, *Body Bazaar: The Market for Human Tissue in the Biotechnology Age* (New York: Crown Publishers, 2001); and Marilyn

Strathern, *Property, Substance and Effect: Anthropological Essays on Persons and Things* (London and New Brunswick, NJ: Athlone Press, 1999) [especially ‘Chapter 8: Potential Property: Intellectual Rights and Property in Persons’, pp. 161-78].

6. Kass, *Reproduction & Responsibility*, p. 158.

7. *Ibid.*, pp. 162-3.

8. *Diamond v. Chakrabarty* (1980), 447 U.S. 303, 65 L. Ed. 2d 144, 100 S. Ct. 2204.

9. *Ibid.*, 447 U.S. at 309-10.

10. David Vaver, *Intellectual Property Law: Copyrights, Patents, Trade-marks* (Concord, ON: Irwin Law, 1997), p. 124.

11. Jeremy Rifkin, *The Biotech Century: Harnessing the Gene and Remaking the World* (New York: Jeremy P. Tarcher/Putnam, 1998), p. 43; Cregan and James, ‘Stem-Cell Alchemy’, p. 68.

12. See, for example: Boyle, *Shamans, Software, & Spleens*; Corynne McSherry, *Who Owns Academic Work?: Battling for Control of Intellectual Property* (Cambridge, MA and London: Harvard Univ. Press, 2001); and Vaidhyanathan, *Copyrights and Copywrongs*.

13. McSherry, *Who Owns Academic Work?*, p. 223. See also Siva Vaidhyanathan, ‘Copyright as Cudgel’, *The Chronicle Review: The Chronicle of Higher Education, Section 2*, August 2, 2002, pp. B7-B9.

14. Vaidhyanathan, *Copyrights and Copywrongs*, p. 12.

15. Boynton, ‘Righting Copyright’, quoting from Boyle, *Shamans, Software, & Spleens* (apparently). We say that the quote is “apparently” borrowed from this book of Boyle’s, because, while he does not cite to a specific page, Boynton’s article comprises a review essay on the book, and three other related volumes, and does not indicate the use of any additional sources.

For further work by Boyle and other scholars that is even more directly pertinent to issues surrounding the drawing of parallels between “the environmental movement”, and the urgent drive to preserve a public domain of non privatized, non commodified, knowledge and creativity, see the volume, *Collected Papers: Duke Conference on the Public Domain*, that is cited in Section 2 of the report.

16. Vaidhyanathan, *Copyrights and Copywrongs*.

17. Paul Goldstein, *Copyright’s Highway: The Law and Lore of Copyright from Gutenberg to the Celestial Jukebox* (New York: Hill and Wang, 1994), p. 19.

18. The quoted phrase is borrowed from *ibid.*

19. See Vaidhyanathan, *Copyrights and Copywrongs*, pp. 163-7.

20. *Ibid.*, pp. 164-5.

21. See, for example: Michael F. Brown, *Who Owns Native Culture?* (Cambridge, MA: Harvard Univ. Press, 2003); Townley, ‘Intellectual Property and Indigenous Knowledge’; Darrell Addison Posey,

‘Intellectual Property Rights and the Sacred Balance: Some Spiritual Consequences from the Commercialization of Traditional Resources’, pp. 3-23, and Tom Greaves, ‘Contextualizing the Environmental Struggle’, pp. 25-46 in John A. Grim, ed., *Indigenous Traditions and Ecology* (Cambridge, MA: Harvard Univ. Press, 2001); and Brooke Collins-Gearing and Nancy E. Wright, ‘The Rhetoric of Benevolence as an Impediment to the Protection of Indigenous Cultural Property’, unpublished paper furnished by the latter author in November 2003. I would like to thank Nancy Wright for a series of stimulating discussions with her concerning this issue, in particular, as well as a variety of other matters pertinent to this section of the report.

22. Brown, *Who Owns Native Culture?*, p. 226.

23. Collins-Gearing and Wright, ‘Rhetoric of Benevolence’, p. 2 and *passim*.

24. Townley, ‘Intellectual Property and Indigenous Knowledge’, p. 24.

25. *Ibid.*, p. 25. For further insight, drawing on such disparate milieus as the modern “scientific community”, and “[t]he Indians of the Northwest American coast”, specifically the Kwakiutl, on the radical, conceptual contrast between scenarios where “knowledge circulates as a gift,” and those where “knowledge is treated as a commodity, for sale at a profit”, see: Lewis Hyde, *The Gift: Imagination and the Erotic Life of Property* (London: Vintage, 1999), pp. 74-92.

26. Brown, *Who Owns Native Culture?*, pp. 205-28.

27. *Ibid.*, p. 209.
28. *ibid.*, pp. 226-7.
29. Vandana Shiva, *Protect or Plunder?: Understanding Intellectual Property Rights* (London and New York: Zed Books, 2001), pp. 13-14.
30. Surendra J. Patel, 'Can the Intellectual Property Rights System Serve the Interests of Indigenous Knowledge?', pp. 305-22 in Brush and Stabinsky, *Valuing Local Knowledge*, p. 310. We draw at this point also on E. Richard Gold, *Body Parts: Property Rights and the Ownership of Human Biological Materials* (Washington, D.C.: Georgetown Univ. Press, 1996), pp. 66-85, 107-24.
31. Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (Cambridge, MA: South End Press, 1997) p.5
32. *Ibid.*, p. 3.
33. For related uses of the phrase, "patenting life", cf. Leon Kass, *Toward a More Natural Science: Biology and Human Affairs* (New York: Free Press, 1985), pp. 95-6; and Rifkin, *Biotech Century*, pp. 37-66.
34. *Ibid.*, p. 37.
35. Shiva, *Protect or Plunder?*, *passim*.
36. Graham Dutfield, *Intellectual Property Rights, Trade and Biodiversity* (London: Earthscan, 2000), p. 9.
37. *Ibid.*, p. 14.
38. *Ibid.*, p. 19.
39. *Ibid.*, p. 20.
40. *Ibid.*
41. Shiva, *Protect or Plunder?*, p. 3.
42. *Ibid.*
43. See also, for example, Shiva, *Biopiracy*, pp. 19-21.
44. Steven P. McGiffen, *Biotechnology: Corporate Power Versus the Public Interest* (London and Ann Arbor, MI: Pluto Press, 2005), pp. 82, 93, and *passim*.
45. *Ibid.*, pp. 6-55.
46. Gold, *Body Parts*, pp. 64-85.
47. *Chakrabarty*, 447 U.S. at 308-9; Gold, *Body Parts*, p. 80.
48. *Ibid.*, at 309-10, 313.
49. In addition to the printed case, an excellent resource for information about the events surrounding *Chakrabarty* is an essay by the now well known central figure himself: A.M. Chakrabarty, 'Patenting of Life-Forms: From a Concept to Reality', pp. 17-24 in Magnus, Caplan, and McGee, *Who Owns Life?*
50. *Chakrabarty*, 447 U.S. at 305.
51. *Ibid.*, at 305-6.
52. *Ibid.*, at 306.
53. *Ibid.*, at 309.
54. *Ibid.*
55. *Ibid.*, at 310.
56. *Monsanto Canada Inc. v. Schmeiser*, 2004 SCC 34 <www.lexum.umontreal.ca/csc-scc/en/rec/html/2004scc034.wpd.html> (June 10, 2004), pp. 6-7; McGiffen, *Biotechnology*, pp. 93-5.
57. *Monsanto Canada Inc. v. Schmeiser*, p. 14.
58. *Ibid.*, pp. 8, 16-17.
59. *Ibid.*, p. 16.
60. See *Harvard College v. Canada (Commissioner of Patents)*, 2002 SCC 76 <www.lexum.umontreal.ca/csc-scc/en/pub/2002/vol14/html/2002scr4_0045.html> (December 26, 2005).
61. *Ibid.*, p. 2.
62. *Ibid.*
63. *Monsanto Canada Inc. v. Schmeiser*, pp. 8-9; *Harvard College v. Canada* (Chief Justice McLachlin, and Justices Major, Binnie, and Arbour dissenting), p. 4.
64. Lori Andrews and Dorothy Nelkin, 'Propriety and Property: The Tissue Market Meets the Courts', pp. 197-222 in Magnus, Caplan, and McGee, *Who Owns Life?*, p. 209.

65. Ari Berkowitz and Daniel J. Kevles, 'Patenting Human Genes: The Advent of Ethics in the Political Economy of Patent Law', pp. 75-97 in Magnus, Caplan, and McGee, *Who Owns Life?*, p. 75.
66. Andrews and Nelkin, 'Propriety and Property', p. 209.
67. See, for example: *ibid.*; Andrews, 'People As Products'; and Lori Andrews and Dorothy Nelkin, *Body Bazaar: The Market for Human Tissue in the Biotechnology Age* (New York: Crown Publishers, 2001).
68. *Ibid.*, pp. 2-3.
69. *Cf.*, for instance, Boyle, *Shamans, Software, & Spleens*, especially pp. 97-107; and James Boyle, 'The Second Enclosure Movement and the Construction of the Public Domain', pp. 33-74 in *Collected Papers: Duke Conference on the Public Domain*, pp. 37-8.
70. *John Moore v. The Regents of the University of California* (1990), 51 Cal. 3d 120, 93 P.2d 479, 271 Cal. Rptr. 146 <www.carthage.edu/~brent/305moore.htm> (January 13, 2005). Especially helpful analyses of the case and its subsequent impact may be found in Gold, *Body Parts*; Andrews and Nelkin, *Body Bazaar*; Boyle, *Shamans, Software, & Spleens*, pp. 97-107; and Davies and Naffine, *Are Persons Property?*
71. *Moore*, p. 1.
72. *Ibid.*
73. *Ibid.*
74. *Ibid.*
75. Davies and Naffine, *Are Persons Property?*, p. 11.
76. *Moore*, p. 2.
77. *Ibid.*
78. *Ibid.*
79. *Ibid.*, p. 3.
80. *Ibid.*, p. 4.
81. *Ibid.*
82. *Ibid.*, pp. 4-5.
83. *Ibid.*, p. 4.
84. Andrews and Nelkin, *Body Bazaar*, p. 2.
85. *Reproduction & Responsibility*, p. 169.
86. *Ibid.*, p. 171.
87. *Cf.* George W. Bush, 'Remarks by the President on Stem Cell Research', pp. 307-12 in Glenn McGee and Arthur Caplan, eds., *The Human Cloning Debate*, 4th ed. (Berkeley, CA: Berkeley Hills Books, 2004) [comprising the text of an August 9, 2001 statement by the President]. President Bush's statements on these matters, as represented here, as well as in the immediately preceding, 2002 selection in this volume, 'Remarks by the President on Human Cloning Legislation', at pp. 303-06, peculiarly underscore the tensions existing among these rationales, as the President navigates between his strong constituencies in industry, on the one hand, and in the evangelical Protestant community, on the other.
88. Berkowitz and Kevles, 'Patenting Human Genes', p. 92. See also McGiffen, *Biotechnology*, pp. 6-92.
89. *Ibid.*, pp. 76, 92.
90. The quoted phrase is borrowed from Mark J. Hanson, 'Patenting Genes and Life: Improper Commodification?', pp. 161-74 in Magnus, Caplan, and McGee, *Who Owns Life?*, p. 165.
91. Bush, 'Remarks by the President on Human Cloning Legislation', p. 304.
92. Jack Wilson, 'Patenting Organisms: Intellectual Property Law Meets Biology', pp. 25-58 in Magnus, Caplan, and McGee, *Who Owns Life?*, p. 50; Arti K. Rai and Rebecca S. Eisenberg, 'Bayh-Dole Reform and the Progress of Biomedicine', *Law and Contemporary Problems*, vol. 66, nos. 1&2 (2003), pp. 289-314, p. 290; and David Magnus, 'Introduction', pp. 11-16 in Magnus, Caplan, and McGee, eds., *Who Owns Life?*, p. 12.
93. Rai and Eisenberg, 'Bayh-Dole Reform and the Progress of Biomedicine', *passim*.
94. Craig Holdrege, *Genetics & the Manipulation of Life: The Forgotten Factor of Context* (Hudson, NY: Lindisfarne Press, 1996), p. 159; Benjamin Wiker, *Moral Darwinism: How We Became Hedonists* (Downers Grove, IL: InterVarsity Press, 2002), p. 303.