The Commodification of Human Beings

By Lauren Maloney*

I. Introduction

The Moore1 and Myriad2 decisions poorly interpret the statutory language in the Patent Act, making it easier for human beings to become fungible objects bought and sold in the marketplace. Although that statute requires that inventions and discoveries be new,3 both decisions fail to recognize this. The courts ignore the uniqueness of each person’s body parts,4 leading to two practices: the coercion/corruption marketplace dichotomy and the loss of “personhood” within a person’s property.5 The cases reduce people to mere objects, commodifying human beings and

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4 Moore, 793 P.2d at 490; Myriad, 133 S. Ct. at 2116-19.

5 Moore, 793 P.2d at 490; Myriad, 133 S. Ct. at 2116-19. See also MARGARET JANE RADIN, CONTESTED COMMODITIES 55-56 (1996); MICHAEL J. SANDEL, WHAT MONEY CAN’T BUY 111-13 (2012).
objectifying them in the marketplace.

In Moore, a majority of the California Supreme Court determined that parts of the human body removed from the whole are “waste.”6 The Supreme Court’s recent Myriad decision furthered this idea.7 Both cases allowed doctors to either profit from or obtain patents protecting parts of their patients’ bodies: cell lines and complementary DNA (cDNA)8 respectively.9

This article demonstrates the harm of the commodification of human beings. First, it presents the judges’ perspectives from the Moore and Myriad cases, followed by a reading of the Patent Act to see whether body parts can pass the test for patentable subject matter. Second, it applies two theories, the coercion/corruption dichotomy and personhood, to Moore and Myriad. Third, it posits that both theories can co-exist and could have been applied to the Moore and Myriad decisions to avoid the commodification of human beings.

II. Background

   a. Moore v. Regents of the University of California

John Moore, suffering from hairy-cell leukemia, sought the care of

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6 Moore, 793 P.2d at 491-92.
7 Myriad, 133 S. Ct. at 2116-19 (Petitioners conceded that “cDNA differed from natural DNA in that ‘the non-coding regions [were] removed,’” but argued cDNA was not patentable subject matter because “[t]he nucleotide sequence of cDNA is dictated by nature, not by the lab technician.” The Court disagreed stating that the lab technician creates “something new” when cDNA is made and although “cDNA retains the naturally occurring exons of DNA” it is “distinct from the DNA from which it was derived”).
8 Composite DNA (cDNA) is synthetically created from DNA using exon-only strands which act as coding for amino acids that create protein in the body. See id. at 2111.
9 Moore, 793 P.2d at 490-91; Myriad, 133 S. Ct. at 2109 (where Myriad found and obtained several patents for the “precise location and sequence of BRCA1 and BRCA2 genes,” which can increase risk of breast and ovarian cancer).
Dr. David Golde. Golde recommended Moore’s spleen be removed and portions used for research purposes. Though Moore consented to the splenectomy, Golde did not inform him of the research instructions because he believed that once the spleen was removed, and serving as an object of research, it was not related to Moore’s health care. Moore subsequently returned to UCLA facilities several times after his splenectomy and gave “blood, blood serum, skin, bone marrow aspirate, and sperm” samples.

From these samples, Golde and other physicians conducted tests intended to benefit the physicians “financially and competitively . . . [by exploiting the cells] and [their] exclusive access to [the cells] by virtue of [Golde’s] on-going physician-patient relationship.” These tests led to the creation of a “cell-line from Moore’s T-lymphocytes.” Golde and Dr. Shirley G. Quan applied for a patent on the cell-line, listing themselves as the inventors. The patent enabled the doctors to “. . . share in any royalties or profits . . . arising out of the patent.” As a result of the patent, Golde was hired as a consultant by Genetics Institute and was compensated handsomely for providing “exclusive access to the materials and research performed” on the cell-line.

Once Moore learned his body parts were being used without his consent, he sued. Moore argued his rights had been violated through

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10 Moore, 793 P.2d at 480-81.
11 Id. at 481.
12 Id.
13 Id.
14 Id. (internal quotation marks omitted).
15 Id.
16 Id. at 482.
17 Id.
18 Id.
19 Id.
conversion, which protects “against interference with possessory and ownership interests in personal property.” Moore argued his physicians converted his property through their “unauthorized use of his cells.”

The California Supreme Court disagreed. The court held Moore’s cells, once removed from the body, were “waste” under California law and, as such, had no personal property rights attached. Furthermore, the court determined that lymphokines possess not only the same molecular structure and function in every human being, but also that they share the same genetic material, thus limiting any property rights Moore could assert.

Dissenting Justices Broussard and Mosk found that Moore retained the right to recover the economic value of his body parts. Justice Broussard noted Moore had protections against conversion both under common law and the Uniform Anatomical Gift Act. The Act, though not directly applicable to living donors, grants patients the right to designate the use of removed body parts. Broussard argued that The California Health and Safety Code, also cited by the majority, offers no right to the

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20 Id. at 487.
21 Id.
22 Id. at 491-97.
23 Id. at 491-92 (quoting Section 7054.4 of California’s Health and Safety Code which states: “[n]otwithstanding any other provision of law, recognizable anatomical parts, human tissues, anatomical human remains, or infectious waste following conclusion of scientific use shall be disposed of by interment, incineration, or any other method determined by the state department [of health services] to protect the public health and safety”).
24 Id. at 492 (noting that the statute provides for the “eventual destruction” of biological waste materials, thereby terminating any personal property right one could potentially retain in excised cells or other body materials).
25 Id. at 490.
26 Id. at 498-523.
27 Id. at 501-02.
28 Id.
attending physician to decide the use of an extracted body part.\(^\text{30}\) Similarly, Justice Mosk argued Moore’s conversion claim was “as new as its source.”\(^\text{31}\) In other words, whether Moore was entitled to a conversion claim was a question of first impression, that is, the court had never decided whether or not a part of the body could be considered personal property.\(^\text{32}\) Where Justice Mosk differed from Justice Broussard in his analysis was in his distinction between “a truly scientific use and . . . blatant commercial exploitation.”\(^\text{33}\) He argued that property is defined broadly as a “bundle of rights,” where some rights do not apply to some forms of property.\(^\text{34}\) Title is not destroyed by the inapplicability of certain rights or the imposition of certain limitations.\(^\text{35}\) As a result, he concluded Moore had at least the same rights as the doctors using his body parts, including the opportunity to either contract for economic benefit along with the doctors or to abandon his property rights.\(^\text{36}\)

**b. Association for Molecular Pathology v. Myriad Genetics**

Unlike in *Moore*, the body materials used by Myriad Genetics involved multiple patients.\(^\text{37}\) Myriad received patents for its discovery of the exact “location of the BRCA1 and BRCA2 genes on chromosomes 17 and 13” and the extraction thereof to create complementary DNA

\(^{30}\) *Moore*, 793 P.2d at 503.

\(^{31}\) Id. at 507.

\(^{32}\) Id. at 507-08.

\(^{33}\) Id. at 509.

\(^{34}\) Id. at 509-10.

\(^{35}\) Id.

\(^{36}\) Id.

Myriad used these discoveries to develop tests to determine a woman's risk for breast or ovarian cancer.\(^3^9\) Myriad then sought and obtained a number of patents related to BRCA.\(^4^0\) If valid, Myriad would be able to extract and conduct tests on certain DNA sequences with the BRCA1 gene, and the cDNA created therefrom; and “exclude others from making” the BRCA isolated genes and cDNA, thereby removing others from the marketplace.\(^4^1\)

Dr. Harry Ostrer, along with others, challenged whether Myriad’s patent was valid.\(^4^2\) The Supreme Court considered whether, under the Patent Act, gene sequences were patentable subject matter. In Moore specifically, the Court considered whether the DNA sequences fell within the realm of abstract ideas, natural phenomenon, or laws of nature.\(^4^3\) The Court ruled that while isolated DNA is not patentable subject matter, cDNA is eligible for patentability.\(^4^4\)

Because isolated DNA is a natural occurrence, it is not patentable subject matter.\(^4^5\) Myriad merely discovered the location of the BRCA and nucleotide sequences,\(^4^6\) and discovery could not alone constitute a basis for patentability; there must be some type of alteration to satisfy the threshold of patentable subject matter.\(^4^7\) The Court did not find the same

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\(^{38}\) Ass’n for Molecular Pathology v. Myriad Genetics Inc., 133 S. Ct. 2107, 2112 (2013) (where the exact locations for BRCA1 and BRCA2 are chromosomes 13 and 17).

\(^{39}\) Id. at 2112-13.

\(^{40}\) Id.

\(^{41}\) Id. at 2113-14.

\(^{42}\) Id. at 2114.

\(^{43}\) Id.

\(^{44}\) Id. at 2119.

\(^{45}\) Id. at 2116-19.

\(^{46}\) Id.

patentability problems with cDNA sequences.\textsuperscript{48} The process of creating cDNA “results in an exons-only molecule” not found in nature.\textsuperscript{49} The Court dismissed petitioners’ argument that the cDNA nucleotide sequence is already predetermined by nature, finding human intervention in the form of the lab technician creating the sequence.\textsuperscript{50}

III. The Commodification of the Human Body: Applying Moore and Myriad to Statutory Language

c. Statutory Patenable Subject Matter

Patentability analysis must start with the Patent Act. Using the same framework as the Justices in Myriad, in order to be eligible for patentability, the object, process, or method must meet the section 101 threshold:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.\textsuperscript{51}

An invention or discovery must be new.\textsuperscript{52} Neither the property at issue in Moore nor in Myriad meets this threshold. Each of the extracted body parts occurred naturally. Under the reasoning in Myriad, neither Moore’s cell-line nor the isolated DNA and cDNA in Myriad should have been properly deemed patentable subject matter.\textsuperscript{53}

This problem of determining what is new, patentable subject matter is the main flaw in decisions like Moore and Myriad. Within

\textsuperscript{48} Myriad, 133 S. Ct. at 2116-19.
\textsuperscript{49} Id.
\textsuperscript{50} Id.
\textsuperscript{52} Id.
\textsuperscript{53} I recognize that the Court in Myriad ruled to the contrary with respect to isolated DNA, but to reiterate my point I include it here. See Myriad, 133 S. Ct. at 2116-19.
doctrinal language, human intervention with a naturally occurring object can constitute a new invention under the Patent Act.\textsuperscript{54} Moore’s cell-line and tissues, and the DNA in the Myriad case, occur naturally. However, it can be argued that cDNA is found to be naturally occurring. Though the Supreme Court in Myriad decided cDNA was synthetically created, cDNA is the “product of reverse transcription from the mRNA encoded by the naturally occurring DNA.”\textsuperscript{55} This process, which includes cDNA, is naturally occurring and would fit within Justice Douglas’s definition, as reverse transcription is a process occurring in each human being, thereby a “manifestation of [the] laws of nature” accessible to all of us, but exclusive to no one.\textsuperscript{56} If each of these is to be found in nature, it stands to reason none of these body parts can constitute a “new invention or discovery.”\textsuperscript{57}

d. America Invents Act Section 33

Though unavailable at the time when Myriad was decided, it would be interesting to apply Section 33 of the America Invents Act (AIA). This provision places limitations on the issuance of patents: “Notwithstanding any other provision of law, no patent may issue on a claim directed to or encompassing a human organism.”\textsuperscript{58} The AIA fails to define what a “human organism” is, so one must turn to the dictionary meaning. \textit{Merriam Webster} defines “human” as: “of, relating to, or characteristic of

\begin{itemize}
\item \textsuperscript{54} JASPER A. BOVENBERG, PROPERTY RIGHTS IN BLOOD, GENES AND DATA: NATURALLY YOURS? 46 (2006).
\item \textsuperscript{55} Id. at 48.
\item \textsuperscript{56} Funk Bros. v. Kalo Inculent Co., 333 U.S. 127, (1948). \textit{But see} BOVENBERG, supra note 54, at 48 (arguing that cDNA is distinctive from the naturally occurring gDNA sequence, thus constituting a "new composition of matter").
\item \textsuperscript{57} 35 U.S.C. § 101.
\item \textsuperscript{58} Leahy-Smith America Invents Act (AIA) § 33(a), Pub. L. No. 112-29, 125 Stat. 284 (codified as amended in scattered sections of 35 U.S.C.).
\end{itemize}
humans.” 59 “Organism” is defined as: “a complex structure of interdependent and subordinate elements whose relations and properties are largely determined by their function in the whole; an individual constituted to carry on the activities of life by means of organs separate in function but mutually dependent; [or] a living being.”60

Combining the two definitions, a human organism is one in which body parts and functions, characteristic of human beings, are dependent upon one another and are not viewed as separate entities, but as part of a whole.61 For the whole to function, it depends on the functions of its individual parts.62 Further, the human characteristic associated with the separated body part does not disappear because of its detachment.63

The statutory language cautions hesitancy with respect to human beings64 by requiring a new invention or discovery.65 Section 33 of the America Invents Act stresses claims on patent applications cannot be directly made or encompass a human organism.66 In the context of different legal theories, Moore and Myriad demonstrate the inherent danger in paving the way for human being commodification.

IV. Legal Theories Applied to Human Commodification

Two theories of commodification in the marketplace—the coercion/corruption dichotomy, and personhood—are viewed as distinct.

61 Human, supra note 59.
62 Id.
63 Id.
66 Leahy-Smith America Invents Act (AIA) § 33(a).
The coercion/corruption dichotomy poses moral questions with respect to goods and services bought and sold in the marketplace, while personhood focuses on one’s identity and her relationship, be it a buyer or seller, to the marketplace. With respect to human commodification, however, the two can arguably co-exist. Within the marketplace, morality is a social construct of good and evil—there is commodification that may be good and healthy, and commodification that may be unhealthy and bad. Viewing the two theories as a whole sheds light on the inherent evil associated with the commodification of human beings.

e. Laying Out the Commodification Theories

Personhood focuses on one’s identity and free will; more specifically, it focuses on how free will can shape a person’s identity. When people become commodities, free will becomes corruptible: a “person cannot be an entity exercising free will...if the person is simultaneously a manipulable object of monetizable value.” When people become an object of manipulation subject to the will of the market, free will becomes a negative liberty, forcing people to choose between the lesser of two evils. Thus, in addition to the focus on one’s identity, personhood focuses on the relationship between identity and the role identity plays in the marketplace.

With the second theory, coercion and corruption are viewed in tandem. Coercion concerns the notion that a person may be forced into

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67 SANDEL, supra note 5, at 110-13.
68 RADIN, supra note 5, at 55-56.
69 Id.
70 Id. at 56. See also Symposium, Reinventing the Double Helix: A Novel and Nonobvious Reconceptualization of the Biotechnology Patent, 55 STAN. L. REV. 303, 435 (2002) (where individuals would essentially be precluded from using their own body parts for non-commodification purposes).
71 RADIN, supra note 5, at 56.
72 Id.
commodifying oneself because of illness, poverty, or the hands of another.\textsuperscript{73} Corruption asks whether the object being commodified is actually better off being reduced to a commodity.\textsuperscript{74}

For example, with respect to the commodification of human beings, a physician may coerce a patient suffering from a terminal illness into allowing the extraction of a body part for research, with the possibility of obtaining a patent.\textsuperscript{75} The corruption is in the relinquishment of a portion of one’s body and identity, along with any property rights, in exchange for survival.\textsuperscript{76} She becomes an object of the marketplace, subject to supply and demand—the ultimate corruption. Here, the doctor’s morality would be unhealthy because of the profit he would stand to make from research conducted on the coerced patient’s body part. Thus both theories interact in the context commodification of human beings.\textsuperscript{77}

\textbf{f. Applying the Commodification Theories to Moore and Myriad}

	extit{Moore} and \textit{Myriad} imply all human beings are the same, stripping individuals from their identities.\textsuperscript{78} The terminally ill patient is coerced into giving the requested body part because she has no right once it is extracted. Even if the terminally ill patient exercises her free will, allowing her physician to conduct research on a body part with the possibility of obtaining a patent, she would still part with her own

\textsuperscript{73} SANDEL, \textit{supra} note 5, at 110-13.

\textsuperscript{74} Id. (Corruption also argues that there are harms even in the absence of commodification).

\textsuperscript{75} See generally SANDEL, \textit{supra} note 5.

\textsuperscript{76} See id. at 111-13; see also RADIN, \textit{supra} note 5, at 55-57.

\textsuperscript{77} SANDEL, \textit{supra} note 5, at 111-13. See also RADIN, \textit{supra} note 5, at 55-56.

\textsuperscript{78} Moore v. Regents of Univ. of Cal., 793 P.2d 479, 490 (Cal. 1990) (finding that the lymphokines in Moore are no more unique to any other person’s lymphokines); Ass’n for Molecular Pathology v. Myriad Genetics Inc., 133 S. Ct. 2107, 2112 (2013) (where the exact locations for BRCA1 and BRCA2 are chromosomes 13 and 17).
identity, becoming an object subject to the demand of the marketplace.\(^79\) If a group of patients, such as those in \textit{Myriad}, agreed to subject their bodies to research in the hopes of finding a cure, they would still become commodities.\(^80\) The cure developed from the research would be bought and sold by those in the marketplace.\(^81\) Although an altruistic goal—helping those suffering from illness—the cure comes at the price of the lost identity\(^82\) and objectification of those providing the basis for the cure.\(^83\)

Even with consent to use one’s tissues, cells, or other body parts for the sole sake of research can lead to the realm of the coercion/corruption dichotomy and personhood.\(^84\) Of course, certain practices, such as the storing of umbilical cord blood or therapeutic use of bone marrow cells, are distinct from the property dilemma in \textit{Moore}.\(^85\) In both of these scenarios, the individual, herself, directly receives the benefit of her own blood or cells, thus allowing her to claim property rights in herself and retain her identity.

Another area to consider is patient advocacy groups; dedicated to helping with research incentives.\(^86\) For example, in \textit{Greenberg v. Miami Children’s Hospital}, patients suffering from Canavan disease offered to provide the attending physician with other patients who suffered from

\(^{79}\) \textit{Radin}, supra note 5, at 55-56.

\(^{80}\) \textit{Myriad}, 133 S. Ct. at 2114. \textit{See also} \textit{Greenberg v. Miami Children’s Hosp. Research Inst., Inc.}, 264 F. Supp. 2d 1064 (2003) (where a group suffering from Canavan disease, a rare genetic disease, agreed to testing procedures in the hopes of finding a cure, but filed suit when they became aware their physician had applied and obtained a patent for the extracted cells).

\(^{81}\) \textit{Sandel}, supra note 5, at 111-13.

\(^{82}\) \textit{Radin}, supra note 5, at 56.

\(^{83}\) \textit{Sandel}, supra note 5, at 111-13.

\(^{84}\) \textit{See generally Sandel}, supra note 5, at 111-13; \textit{Radin}, supra note 5, at 56.

\(^{85}\) \textit{Bovenberg}, supra note 54, at 194.

\(^{86}\) \textit{Id.} at 195.
the disease in an effort to further progress research for a cure.\footnote{Greenberg v. Miami Children’s Hosp. Research Inst., Inc., 264 F. Supp. 2d 1064, 1067 (S.D. Fla. 2003). See also Bovenberg, \textit{supra} note 54, at 195.} This “mutual dependency” between patients and physician(s) can be seen as another solution to the problem of objectifying human beings.\footnote{Bovenberg, \textit{supra} note 54, at 195.} However, in the \textit{Greenberg} case, the applied for patent covered tissues and cells the physician extracted from the various patients.\footnote{\textit{Greenberg}, 264 F. Supp. 2d at 1067.} The patients brought suit for unjust enrichment and conversion, among other claims.\footnote{\textit{Id.} at 1068.} Though the patients’ claim of unjust enrichment claim survived, their conversion claim did not.\footnote{\textit{Id.} at 1077-78.}

There are, however, defenses to the commodification of human beings. One example is that giving body parts over to physicians for research is altruistic in nature. In the \textit{Greenberg} case, as in \textit{Moore}, the patients were coerced by their own illness and the notion of survival to agree to the extraction of their body parts for research.\footnote{Sandel, \textit{supra} note 5, at 111-13. See Moore, 793 P.2d at 481.} However, if the research were used for the patients’ sole benefits, this would not necessarily be deemed a coercive act, but rather altruistic.\footnote{Giving the tissues and cells could be viewed as a donation or gift on the part of the patients. Of course, the patients also hope to benefit from this gift through creation of a cure. See Note, \textit{The Price of Everything, the Value of Nothing: Reframing the Commodification Debate}, 117 Harv. L. Rev. 689, 701 (2003) (introducing the idea that the giver of a gift may be expecting something in return).} The surrounding circumstances, unfortunately, indicate otherwise. Because the physician applied for and obtained a patent for the tissues and cells extracted, his patients became corruptible objects within the marketplace. Likewise, the patients’ identities were lost. Their altruistic nature to progress research for the benefit of those suffering from Canavan’s
disease became masked by the monetary gain of their attending physician. Furthermore, the patent obtained did not meet the statutory language within section 101 of the Patent Act. The tissues and cells were naturally occurring within his patients. There was nothing new regarding neither his discovery nor any invention thereof.

Another defense to the commodification of human beings is that the human genome is communal. In this view, each human being has derived from the same human genome. This would then support the analyses in Moore and Myriad with respect to no one person being more unique in their genetic make-up than the other. Furthermore, it would make body parts more easily subject to patentability. Better access to medical care and further progress in research would be strong benefits if this view were adopted. However, a problem arises when deciding who needs certain medical care and who benefits from the research: the physician or the patient? Again one falls into the trap of the coercion/corruption dichotomy and personhood. One’s identity is lost because she is coerced into joining a pool of others, thus stripping her of her identity and objectifying her.

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94 See Lesley A. Sharp, The Commodification of the Body and Its Parts, 29 ANNUAL REVIEW OF ANTHROPOLOGY 287, 310 (2000); see also BOVENBERG, supra note 54, at 199.

95 See Sharp, supra note 94; see also BOVENBERG, supra note 54, at 199.

96 Moore, 793 P.2d at 490 (where the court stated that the “particular genetic material which is responsible for the natural production of lymphokines, and which defendants use to manufacture lymphokines in the laboratory, is also the same in every person; it is no more unique to Moore than the number of vertebrae in the spine or the chemical formula of hemoglobin.”); Myriad, 133 S. Ct. at 2116-19 (finding that cDNA was distinctive from DNA even though it contains the naturally occurring exons from DNA). See also Sharp, supra note 94, at 310; BOVENBERG, supra note 54, at 199.

97 BOVENBERG, supra note 54, at 199.

98 Id.

99 See SANDEL, supra note 5, at 111-13; RADIN, supra note 5, at 56.
V. Conclusion

The commodification of human beings in the marketplace is harmful, yet it is a reality that even our court system recognizes. Statutory interpretation and theoretical approaches may enable a discussion about the commodification of human beings. Hopefully, it is this discussion that will lead to a solution. Until then, the marketplace will likely continue to objectify human beings, making each of us a mere series of interchangeable parts.