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“Our” Bodies: Property Rights in Human Tissue*

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Abstract — In Moore v. Regents of the University of California, the Supreme Court of California held that the human source of blood and tissue used by his physician and other defendants in potentially lucrative medical research without his permission could not assert a legal claim that, in doing so, the defendants had deprived him of any property right in these materials or the cell line developed from them. He was, however, permitted to proceed with his claim that there had been a failure to obtain his informed consent to the excision or removal of these materials, given that their end uses were not disclosed. The decision in Moore is but one example of the range of new legal problems created by the many and rapid advances in biotechnology, and of the attempts courts are making to respond. The judgment raises questions about whether these types of issues as between the patient and medical, research, and pharmaceutical concerns can or ought to be analyzed in terms of property rights. Are the general justifications for recognizing proprietary rights that have traditionally been influential in judicial decisions useful or helpful in this context? And what of the identity of the decision-maker? In Moore, the majority was content to effectively delegate much of the decision-making authority to the U.S. Patent Office and the Office of Technology Assessment. While there are no Canadian decisions directly on point as yet, the pace of technological advances, the potential for economic gain, and the international nature of biotechnology enterprises all set the scene for these issues’ coming before our courts in the near future. This paper begins to explore the implications of adopting an analytical model based on property rights and to address the fact that the biotechnology industry already operates on the premise that such material can be owned. It concludes that the current legal regime needs to be modified to allow effective control of these new realities and suggests principles that might be adopted to address important concerns that are raised by the transformation of human tissue and cells into economic goods.

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Résumené — Dans la décision Moore c. Regents of the University of California, la Cour suprême de la Californie décidait que le demandeur, source humaine de prélèvements sanguins et de tissus utilisés sans sa permission par un médecin et d'autres défendeurs dans une recherche médicale potentiellement lucrative, ne pouvait soutenir que les défendeurs avaient violé un quelconque droit de propriété qu'il aurait pu avoir, et ce, que ce soit sur ces matériaux ou sur les sous-produits développés à partir de ceux-ci. Le demandeur a cependant été autorisé à maintenir son recours contre les défendeurs sur la base qu'il n'aurait pas donné un consentement éclairé à l'excision ou à l'enlèvement de ces matériaux, étant donné que leur utilisation finale ne lui avait pas été dévoilée. La décision Moore n'est qu'un des nombreux exemples de l'étendue des problèmes juridiques soulevés par les rapides progrès accomplis dans le domaine de la biotechnologie, ainsi que des tentatives des tribunaux pour les régler. Ce jugement soulève notamment la question de savoir si les conflits entre les patients et les corps médicaux, cliniques et pharmaceutiques peuvent ou doivent être utilement analysés en termes de droits de propriété. Les arguments qui ont traditionnellement servi de base aux décisions judiciaires reconnaissant des droits de propriété sont-ils utiles ou pertinents dans ce contexte? Et qu'en est-il de l'identité du décideur? Dans l'arrêt Moore, la majorité se disait d'avis qu'il fallait déléguer en grande partie le pouvoir décisionnel sur ces questions à des organismes tels les «U.S. Patent Office» et «Office of Technology Assessment». Quoiqu'il n'y ait, à ce jour, aucune décision canadienne traitant directement de cette question, le rythme auquel évolue la technologie, le potentiel de gain économique et la nature internationale des entreprises de biotechnologie font en sorte que celle-ci se retrouvera sûrement très prochainement devant les tribunaux canadiens. Cet article explore d'abord les conséquences de l'adoption d'un modèle analytique basé sur les droits de propriété et traite du fait que l'industrie de la biotechnologie fonctionne déjà comme si de tels matériaux pouvaient être l'objet de tels droits. Cet article conclut que le régime juridique actuel doit être modifié afin de permettre un contrôle efficace de ces réalités et suggère certains principes qui pourraient être adoptés afin d'aborder les questions importantes que soulève la transformation des tissus et des cellules humaines en produits économiques.

It is commonplace to think of one's body as quintessentially one's own. After all, surely this is "my" head, "your" hand, "his" arm. And while we as individuals are certainly more than the sum of our body parts, our bodies are extremely important to how we define ourselves.¹ Control over one's own body and the right to

¹ It is not without significance that one of the most influential books on women, health, and health care is titled Our Bodies, Ourselves (New York: Simon & Schuster, 1976).
maintain one's bodily integrity are widely accepted and highly prized societal ideals. But what do we mean by our reflexive and unthinking use of such language with respect to body parts? Does the possessive language entail possessory legal rights as well? This article is concerned with whether we do own our bodies. More particularly, it focuses on whether it makes sense to analyze the legal treatment of human tissue removed from the body in terms of property rights, and what the implications of adhering to a property regime in this area may be.

The question of property rights in one's body is only one of a range of new legal problems created by the many recent advances in biotechnology that will increasingly require a response from courts and legislatures. While there are no Canadian decisions directly on point as yet, the pace of technological advances, the new commercial value now associated with human tissue and body parts, the potential for economic gain, and the international nature of biotechnology enterprises make it quite certain that these issues will confront our courts in the near future. Particularly now, while we are still at the beginning of our experience with the rapidly growing use of human tissue in a broad range of biotechnology applications, it makes sense to consider whether these issues can usefully be or ought to be analyzed in terms of property rights. I should make it clear that I am limiting myself to a consideration of human tissue not involved in reproduction; the additional issues that arise when that dimension is added are beyond the scope of this article.

Existing Regulation

To a certain extent, use of human tissue in Canada is already regulated by statute. The nine common law provinces and two territories have based their statutory schemes governing the transfer of body parts and tissues on model legislation proposed by the Uniform Law Conference of Canada. In Ontario, for instance, the Human Tissue Gift Act\(^4\) governs inter vivos gifts for transplant of human tissue

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2. It should be noted that, while these ideals are thought to be generally applicable, they are frequently applied ambivalently, if at all, where women's childbearing capabilities and choices are concerned—see, e.g., Re Baby R. (1987) 9 R.F.L. (3d) 415 (B.C. Prov. Ct.); rev'd.—although after the fact, when a caesarian section had already been performed—(1988) 15 R.F.L. (3d) 225 (B.C.S.C.); Re Children's Aid Society of Belleville, Hastings Cty. and T. (1987) 59 O.R. (2d) 204 (Prov. Ct.) (considering maternal/fetal conflicts). But see Re A. (in utero) (1990) 75 O. R. (2d) 82 (U.F.C.).


and post-mortem gifts for transplant and other uses. Other provinces have enacted similar legislation, with some variation in scope and permitted uses. The Canadian system is based largely on a gift ethic and on consent of a living donor or the family of a deceased individual. In Quebec, the process of tissue donation differs somewhat from that in other provinces, for instance with respect to consent.

Ontario bans dealing in human tissue for valuable consideration in the following terms:

10. No person shall buy, sell or otherwise deal in, directly or indirectly, for a valuable consideration, any tissue for a transplant, or any body or part or parts thereof other than blood or a blood constituent, for therapeutic purposes, medical education or scientific research, and any such dealing is invalid as being contrary to public policy.

This prohibition is not, however, complete in its coverage. “Tissue” is defined to exclude regenerative tissue, such as skin, bone, blood, and blood constituents. It is unclear whether any of these would nonetheless fall within the meaning of the


6. Civil Code of Lower Canada, arts. 20–22. Living donors may consent to donation or transplantation if the risks assumed are not disproportionate to the expected benefits. Where an individual has died without any instructions regarding donation, the spouse or family of the deceased may consent or a physician may procure organs or tissues from a recently deceased individual without consent where “two physicians attest in writing to the impossibility of obtaining it in due time, the urgency of the operation, and the serious hope of saving a human life.” See also Law Reform Commission of Canada, supra note 3 at 132–33.

7. Supra note 4, sec. 10. In Manitoba’s 1987 amendments to its Human Tissue Act, supra note 5, sec. 15(2)–(4), payments for reasonable associated expenses were specifically excluded from the definition of “selling or buying.”

8. Supra note 4, sec. 1. It should also be noted that while the statute speaks to gifts, it does not specifically address other mechanisms that result in human biological material becoming available. Organs are donated, and typically, blood is as well. Their availability results from a conscious decision to give; other material, such as body fluids or tissue, may be given but is frequently a waste product or “left over” from medical treatment or tests. It has been pointed out that, with the latter, “le point de départ du process industriel [i.e., in biotechnology] n’est plus un don, mais un abandon,” with the result that “ces choses sont appropriables par celui qui s’en empare.” See M. A. Hermitte, “Le corps hors du commerce, hors du marché” (1988) 33 Arch. Phil. Dr. 323 at 338.
term "body parts" as it is used in section 10 of the act, and if so, under what circumstances. The Law Reform Commission of Canada notes that one jurisdiction in the United States has exempted cell lines from its prohibition on the sale of tissue, raising a parallel query as to whether the provincial tissue sales bans are intended to apply to cellular or subcellular entities.\textsuperscript{9} The statute is silent with respect to \textit{inter vivos} gifts for purposes other than transplant. The prohibition on dealing in tissue or body parts for valuable consideration is incomplete as well, in that it is limited to dealing for certain specified purposes—therapy, medical education, and scientific research.\textsuperscript{10} It also excludes commercial markets in blood or blood products entirely—in other words, a market in blood is permitted.\textsuperscript{11} Further, it has been suggested that if the transfer of human materials is regarded as a service rather than a sale, it may be possible to argue that the statute's prohibition on commercial transactions does not apply, thus circumventing it entirely.\textsuperscript{12} Finally, questions have been raised as to whether the nullification provisions in the statute and the minimal penalties for contravening the act (a maximum of six months imprisonment or a $1,000 fine) are a sufficient deterrent.\textsuperscript{13} The 1989 Uniform act, which has not yet been incorporated into provincial legislation, proposes both a much increased maximum penalty and a longer period of imprisonment.\textsuperscript{14}

In practice, the statutory prohibition on sales of human tissue encompasses most of the present possibilities. However, as the biotechnology industry moves beyond a concentration on research efforts to straightforward commercial uses of human tissue in its products, it is not at all clear that the \textit{Human Tissue Gift Act} would apply to certain types of markets in human tissue or body parts.\textsuperscript{15} Nor does

\begin{thebibliography}{4}
\bibitem{10} \textit{Supra} note 4, sec. 10. As an example of the gaps the statute leaves, it has been suggested that the prohibition would not extend to commercial ovum donation or embryo transfer; see B. Dickens, "The Control Of Living Body Materials" (1977) 27 U.T.L.J. 142 at 166. Some jurisdictions prohibit sales for any purpose; see, e.g., \textit{The Human Tissue Act}, S.M. 1987–88, c. 39, sec. 15(2).
\bibitem{11} \textit{Ibid.} at sec. 10.
\bibitem{13} \textit{Supra} note 4, sec. 12; Law Reform Commission of Canada, \textit{supra} note 3 at 134.
\bibitem{14} \textit{Supra} note 3 at 214 (\textit{Uniform Human Tissue Donation Act} (1989)) sec. 15.
\bibitem{15} Although the possibility remains that any particular instance could be found void at common law as against public policy.
\end{thebibliography}
the act regulate the commercial exploitation of products derived from human tissue. Presumably by that point, any attributes of human tissue present have become so attenuated that the product is no longer considered to be in any way composed of human tissue. Otherwise, current markets for such products—for instance, interferon, human growth hormone, various vaccines and treatments and tests for numerous other diseases and conditions—would be prohibited by law, and they clearly are not. Advances in scientific knowledge and ability in this area have been so rapid that, although the prototype Human Tissue Gift Act on which all provinces (except Quebec) and the two territories based their tissue donation laws was revised by the Uniform Law Conference of Canada in 1971, it does not cover many of the situations that now arise. They simply could not have been foreseen at the time this legislation was passed. That leaves numerous questions as to the law that will apply—what will fill in the gaps.

This article focuses on issues as between the patient (the source of the tissue) and research and pharmaceutical concerns. Recent interest in this area was sparked by a 1990 American decision, Moore v. Regents of the University of California, in which the Supreme Court of California held that an action for conversion would not lie at the instance of a patient who claimed that a very valuable cell line had been developed without his knowledge or consent from tissue taken from his body. Faced with a novel fact situation and a very novel claim—a claim to a property right in one’s cells after removal from one’s body—the Court of Appeal

16. Or, to approach the analysis differently, it could be argued that if the product can be patented, then it is a new invention, factually and legally distinct from the human tissue from which it was derived; see discussion of Moore v. Regents of the University of California, infra, notes 44–50 and accompanying text. The Law Reform Commission of Canada has implicitly accepted this differentiation between human tissues and products derived from them, as it recently recommended that the purchase or sale of human bodies, organs and other nonregenerative tissue be made a Criminal Code offence, while at the same time recommending that bodily substances “transformed by skill and labour into ... processed and preserved tissue ... should be considered proprietary objects that fall within criminal law protection against theft.” Supra note 3 at 184, 187.


18. Law Reform Commission of Canada, supra note 3. The 1989 Model Act has not as yet resulted in legislative amendments. It clarifies some but not all of the questions of legislative interpretation raised in the preceding text.

19. 271 Cal. Rptr. 146; 51 Cal. 3d 120 (1990) (S.C. Cal.) [hereinafter, Moore (S.C.) and cited to 271 Cal. Rptr.].

20. An unauthorized interference with property rights; acting in a way inconsistent with the owner’s title to the property.
and the Supreme Court of California responded largely in traditional terms, using familiar analyses and justifications in order to determine whether such a property right could exist. With Moore, then, we can begin to see the outlines of how far and in what directions applying a property regime to human tissue would take us, and where we are left without one.

Moore v. Regents of the University of California

John Moore suffered from a rare form of leukemia. In 1976, his spleen was removed as a necessary part of his treatment. In connection with that treatment, his physician at the University of California at Los Angeles Medical Center, Dr. Golde, ordered that samples of Moore's blood, bone marrow, and other bodily substances be taken. At the time, Dr. Golde was investigating the etiology of the particular type of leukemia from which Moore suffered. As part of that research, Dr. Golde and a colleague at the U.C.L.A., Shirley Quan, grew cells taken from Moore's spleen in a culture and made two findings of significance (or at least, of significance to this lawsuit). First, they found that they were able to develop a cell line from Moore's cells, which they called the Mo cell line. A cell line is a sample of cells that has undergone a process of adaptation to artificial laboratory cultivation and is capable of sustaining continuous long-term growth in the culture medium. Not all cells can be developed into a cell line, and more often than not, the cells will not continue to "reproduce true" over time. Successful cultivation of a cell line has been referred to as an art. Their second discovery of significance was that Moore's cells were unusually rich in certain immune system chemicals (lymphokines) with significant potential for use in pharmaceuticals. Both findings meant that the Mo cell line was worth preserving and developing.

From the time John Moore's spleen was removed in 1976 until 1983, he returned from his home in Washington state to the U.C.L.A. Medical Center many times at Dr. Golde's direction, ostensibly for follow-up care and assessment. On each such occasion, Dr. Golde obtained further samples of Moore's blood and bodily substances, which he and Quan used in their research. In 1981, Golde and Quan applied for a patent on the Mo cell line and a number of products developed from it. They were ultimately awarded the patent in March 1984, and thereafter

23. Ibid. at 33.
24. They did not have Moore sign a consent form for the use of his tissue in their research until 1983. (Moore v. Regents of the University of California 202 Cal. App. 3d 1405; 249 Cal. Rptr. 494 (1988) at 510 [hereinafter Moore (C.A.), and cited to 249 Cal. Rptr.].

119
assigned it to the U.C.L.A. Additionally, between 1981 and 1983, Golde, Quan, and the U.C.L.A. entered into contracts with a biotechnology company, Genetics Institute, and a pharmaceutical company, Sandoz Inc., to collaborate on the commercial exploitation of the cell line developed from Moore’s cells and products derived from it.

Moore finally became suspicious of the need for continuing visits to the U.C.L.A. in September 1983, when he was pressured by Dr. Golde to sign a second consent form that included a “voluntary” grant to the University of California of any and all rights he might have in any cell line or any other potential product which might be developed from the blood and bone marrow obtained from him. He refused. In September 1984, Moore commenced an action against Golde, Quan, U.C.L.A., Genetics Institute, Sandoz Inc., and others. Moore alleged that pursuant to contractual arrangements among the defendants, Genetics gave Golde 75,000 shares of its stock at a nominal price, and that Sandoz and Genetics paid the U.C.L.A. and Golde $440,000 over three years. He alleged further that by the time he commenced the lawsuit, Golde’s stock was worth $3,000,000, and that the products developed from the Mo cell line had a potential market value many times that amount. The statement of claim set out thirteen causes of action, which can be broken down into two categories—first, those that flowed from Moore’s assertion of ownership or proprietary rights in his cells and the Mo cell line and derivative products, and second, those associated with the allegations of failure to obtain Moore’s informed consent to the removal of his tissue. The defendants responded with demurrers—that is, preliminary objections that the plaintiff had failed to state any reasonable cause of action. The defendants were successful in their attack on Moore’s claim of conversion (and hence, on all the other property-dependent claims) in the first instance before the Superior Court, Los Angeles County. On appeal, the California Court of Appeal reversed, holding that Moore had adequately stated a cause of action for conversion. The Supreme Court of California granted review and held that Moore did not have a cause of action for conversion, although he could proceed with the action insofar as it was based on lack of informed consent and breach of fiduciary duty. The United States Supreme Court denied certiorari.

The California Court of Appeal and the Supreme Court of California reached diametrically opposed conclusions on Moore’s proprietary claims to the cells and the cell line (although not without strong dissents at each level). The end result is

25. Ibid. at 501
26. Ibid. at 531; interview with Moore, Quirks & Quarks, CBC Radio, June 29 1991.
27. Moore (C.A.), supra note 24 at 500.
28. The causes of action are listed in Moore (S.C.), supra note 19 at 149, note 4.
foretold in each court’s initial phrasing of the pre-existing analytical framework by which it saw itself constrained. The Court of Appeal started from the premise that there was “no legal authority, no public policy and no universally known facts of biological science that would compel a conclusion” that the plaintiff could not have “sufficient legal interest in his own body tissues amounting to personal property.” In other words, no existing law or jurisprudence would force the court to close the door on a finding of property rights in one’s own tissue. By way of contrast, when the Supreme Court of California turned to consider whether Moore could maintain an action for conversion, it noted that “no court ... has ever in a reported decision imposed conversion liability for the use of human cells in medical research.” To the Supreme Court, quite clearly, the door Moore would have to open—the onus he would have to discharge—to convince it to recognize his claim to property rights in his own tissue was a very heavy one indeed. That is probably because, as is quickly apparent from a reading of the Supreme Court’s judgment, the majority saw such a finding less as opening a door than as opening the lid on a Pandora’s box and letting loose a host of undesirable consequences.

Both levels of court worked within traditional legal concepts in order to determine, first, what is entailed in having a property interest in something, and second, how to decide who holds that interest. Relative to the first issue—what it means to have a property interest—the analysis invokes the now familiar idea of property as a bundle of rights, with the precise content of the bundle varying depending on the nature of the property, the situation of the owner, and the context. Even though the content of that bundle may have a contingent and contested quality in any particular instance, the ability to control use of and access to “the property” is one of the elements that is commonly thought of as constitutive of whether a property right in the material exists or can exist, and in whom it lies. Consequently, the scope of and limits on Moore’s control of the material taken from his body were, not surprisingly, a crucial enquiry for both levels of court.

The Court of Appeal characterized a property interest as the “right and interest or domination rightfully obtained over an object.” The conclusion that the cells, which had been part of a human subject, Moore, were transformed on excision

31. Moore (C.A.), supra note 24 at 503 (emphasis added).
35. Moore (C.A.), supra note 24 at 504.
into an object and could be treated like any other object of property on their removal from him is implicit but remains unspoken in the judgment.\(^\text{36}\) Since Moore enjoyed the unrestricted right to the use, control, and disposition of his spleen, the Court of Appeal concluded that "[t]hese rights and interests are so akin to property interests that it would be subterfuge to call them something else."\(^\text{37}\) It regarded the various statutory regimes to which human tissue is subject in California as simply confirming that individuals are indeed able to determine what is done with parts of their own bodies, subject to limitations arising from public health concerns.

On appeal, the Supreme Court of California differed. It took the position that California statute law so drastically circumscribed a patient's right of control over excised cells as to leave nothing to call "property" in terms of rights a patient could assert over the cells. Effectively, said the court, once the cells have been excised from a patient's body, he loses control over them and hence, loses any proprietary interest he may have had in them.\(^\text{38}\) Although the Supreme Court disclaimed any suggestion that its holding meant excised cells could never be property for any purpose whatsoever, its rejection of the various bases on which a property right was asserted by the human source was so thorough and wide ranging that its claim to still leave the possibility of property analysis open in some unspecified instance seems no more than an empty rhetorical flourish, included only out of an abundance of caution.\(^\text{39}\)

Additionally, the majority inappropriately mixed patent requirements with ownership requirements in considering whether Moore could have a property interest in his cells, going to considerable lengths to make the point that Moore's cells were not unique—he just had more of one particular type than most people.\(^\text{40}\) The question of the cells' uniqueness had nothing to do with whether they could be Moore's property. Uniqueness is entirely irrelevant to a proprietary claim; there are many objects that are unquestionably not unique, but are equally unquestionably owned—books, telephones, cars, and so on. The element of uniqueness is only relevant to the award of a patent, not to a property interest. Moore's claim was that whether or not the cells taken from his body were unique,


\(^{37}\) Moore (C.A.), supra note 24 at 505.

\(^{38}\) Moore (S.C), supra note 19 at 158.

\(^{39}\) Ibid. at 160. Given the concern to protect and promote research, one might speculate that, if the cells had been stolen from the researchers' laboratory before being worked on at all, the majority might be prepared to find that the researchers had a property or special possessory interest in the cells sufficient to found a criminal charge of theft.

\(^{40}\) Ibid. at 157.
they were his from the beginning (before any patent was granted or even sought), and that he therefore had a claim to some share in the cell line grown from them. By inaccurately interchanging property and patent requirements, the majority avoided having to grapple fully with this portion of Moore’s argument.

With respect to the second issue—determining who could exercise property rights to the material—for the Court of Appeal, the decision ultimately turned on policy considerations—questions of fairness and logic as well as ethics and morality. In its view, it would be neither fair nor logical to allow the defendants to assert a property interest in the cell line (and presumably also in the cells from which it was developed) and yet preclude the source of the cells, John Moore, from doing so. After all, but for Moore there would be no Mo cell line. Further, the court was concerned that “if a patient does not have the ultimate power to control what becomes of his or her tissues, the door is open to a massive invasion of privacy and dignity in the name of medical progress.”

The way to secure that control was to recognize that the source had a continuing property right in the tissue removed from him. As for this latter point, in a statement for which I have some sympathy, the Supreme Court concluded that the “round pegs” of privacy and dignity could be protected without forcing them into the “square hole” of property.

The Supreme Court dismissed the possibility of the human source’s owning the cells both because he lacked the requisite degree of control and because the cells were not unique. It then effectively shifted its focus to the cell line and away from the cells themselves. It did so through the significance it accorded the fact that Golde and Quan had been granted a patent for the cell line. In the United States, patents may issue to whoever invents or discovers any new and useful nonobvious process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. As the California Supreme Court noted in Moore, “patent law rewards inventiveness,” not “naturally occurring raw materials.” Patents are obtained on application to the federal

41. As the court noted: “Defendants’ position that plaintiff cannot own his tissue, but they can, is fraught with irony ... We cannot reconcile defendants’ assertion of what appears to be their property interest in removed tissue and the resulting cell-line with their contention that the source of the material has no rights therein” (Moore (C.A.), supra note 24 at 507).
42. Ibid. at 508.
43. Moore (S.C.), supra note 19 at 158.
46. Moore (S.C.), supra note 19 at 160. Natural phenomena cannot be patented, at least not per se (Patenting Life, supra note 44 at 39).
Patent Office, where the application is referred to a primary examiner who determines whether a patent should issue—in other words, whether the requirements of the statute have been met. The determination is the result of a closed two-way process between the applicant and the patent examiner. It is a rule-applying process; it does not leave room for consideration of broader policy implications or the impact on other individual or societal interests that may flow from granting or withholding a patent. If the application fits within the four corners of the statute, then a patent will issue. The effect of a patent is to grant the holder a limited property right in the subject matter of the patent—the right to exclude others from practising the invention for a set period of time. Once granted, the patent is accorded the benefit of a rebuttable presumption of validity.47

The Supreme Court in Moore accepted that awarding the patent “constitutes an authoritative determination that the cell-line is the product of invention”—in other words, that it was something new and different from Moore’s cells and was “factually and legally distinct” from them.48 By unquestioningly accepting for all purposes the prior administrative determination of the United States Patent Office that the cell line could properly be the subject of a patent and that the inventors were Moore’s physician and the U.C.L.A. researcher, the Supreme Court redefined the property at issue in the lawsuit. The cells effectively dropped out of the picture and the court’s attention and analysis shifted to the cell line. Given the issue with which the court was faced, it seems inappropriate for it to have deferred so unquestioningly to the determination of bureaucrats whose mandate is limited to applying their own statute, and to whom potential adverse consequences (be they commercial or otherwise) or, indeed, any of the broader ramifications of a decision to grant this type of patent would appear as an entirely irrelevant factor in determining patentability.49 The Patent Office and individual patent examiners are not the most appropriate forum or decision-makers for the development of an ethically acceptable regime to govern the tremendous range of potential uses of human tissue in biotechnology. Nonetheless, by adopting the Patent Office’s determination as its own, the Supreme Court’s decision in Moore had precisely that effect, at least with respect to issues as between the human source and research and pharmaceutical concerns. The decision shifts any responsibility to consider those issues back to the Patent Office. Because that office has no mandate to take any such considerations into account, by default, then, the area remains unregulated in important respects.50

47. For a description of the patenting process in the United States, see Patenting Life, supra note 44, c. 3.
50. It should be noted that in the United States, the decision that a patent could be awarded with respect to a cell line derived from human cells was itself an extension of an earlier determination of the United States Supreme Court in Diamond v. Chakrabarty 447 U.S.
Redefining the property lent considerable weight to the Supreme Court’s reliance on very traditional justifications to support its conclusion that only the developers of the cell line could claim a property interest in it. Once the court narrowed the definition of “the property” under consideration to the cell line alone, then arguments that it was only through the skill and effort of the researchers that “the property” had been brought into existence at all came into their own. Applying a labor-added theory of entitlement to property rights, only Moore’s physician and the U.C.L.A. researcher could have a legitimate proprietary claim to the cell line—they were, after all, its originators. This portion of the decision is heavily reminiscent of the theories of John Locke, who argued that it is those who have added their labor to an object who are entitled to property rights in it. Since only the defendants Golde and Quan had applied their skill, expertise, and labor to producing the cell line from Moore’s cells—which the court treated as so much undifferentiated, valueless matter before being taken in hand by the scientists—then Golde and Quan (and only Golde and Quan) were entitled to a proprietary interest in it.

The unacknowledged and perhaps unconscious borrowing from Locke is somewhat ironic, as Locke began from the premise that “every Man has a Property in his own Person.” It is doubly ironic to find the court drawing on Locke’s theory to justify the present-day conclusion that the human source has no property rights in matter taken from his or her body, given that, as Louise Vandelac points out:

[à la fin du 17e siècle, moment où s’élaboré ce concept, l’esclavage dans les colonies est monnaie courante et les femmes sont données en mariage sans leur avis pour des jeux d’alliance politique ou de fortune, ou soumises au droit de cuissage dans les campagnes.

Cette supposée évidence de la propriété du corps s’élaboré donc sur sa négation, sur son envers, à savoir l’appropriation du corps des esclaves et des femmes, et elle est peut-être aussi liée à la transition entre servage et vente de la force de travail. On peut en effet se demander pourquoi et comment on aurait pu penser à la

303 (1980), in which a slim majority of the court held that a patent could be granted with respect to a living organism—in that case, a genetically modified bacterium capable of breaking down multiple components of crude oil. In Canada, see Pioneer Hi-Bred, infra note 87.


52. Ibid. at 18.
propriété du corps évidence qui en fait n’avait pas à être théorisée, si ce n’est à la lumière de l’appropriation du corps d’autres.53

Locke’s theory harmonized well with a social system marked by a division between persons and control over the lives and labor of persons. The double irony is to see a theory that begins with the categorical assertion “every Man has a Property in his own Person” being drawn on in a similar fashion, now to justify a division between persons (subject) and products (objects) developed from those persons. One wonders about the further objectification to which the theory may lead in this new context.

Echoing another theme that harkens back to the 19th century and Jeremy Bentham’s work justifying the recognition and enforcement of private property rights, the court added a supplemental reason for recognizing the claim of Golde and Quan. It was concerned to protect and secure what it regarded as the legitimate economic expectations of the researchers and those who contracted with them—their expectation of reward from their work on the cell line. Without that protection, said the court, researchers using human cells would be “purchasing a ticket in a litigation lottery” with each cell sample they used.54 Scientific and research activity would suffer overall in such a climate of uncertainty. This is the very type of justification Bentham relied on in support of private property rights in 1802—without legally protected security interests in one’s property, no one would have any incentive to work and all will exist at a subsistence level at best.55 Bolstered by both the Lockean labor-added theory of property rights and the Benthamite view of the function of law being the protection of established economic expectations of reward from one’s labor, the Supreme Court in Moore concluded that indeed, it was the defendants Golde and Quan who had a good claim to ownership of the cell line they had established, and not Moore.

The deference the California Supreme Court paid to a report of the Office of Technology Assessment of the United States Congress on the ownership of human tissues and cells56 is also striking. The conclusions in that report clearly

55. Bentham, “Security and Equality of Property” in C. B. Macpherson,, supra note 51 at 50–52: “We come now to the principle object of law—the care of security ... The idea of property consists in an established expectation ... Now this expectation, this persuasion, can only be the work of law ... As regards property, security consists in receiving no check, no shock, no derangement to the expectation founded on the laws, of enjoying such and such a portion of the good.”
56. Supra note 22. Parenthetically, that report (and indeed, all the other scientific material the majority relied on) was only before the court because it was included as an appendix to one of the defendant’s opening briefs (Moore (S.C.), supra note 19 at 189). Given that
formed the basis for the premises and policy articulated by the majority in *Moore*—that biotechnology has great potential to benefit humanity and is being carried on with that goal uppermost in mind, that there is currently a largely free and disinterested exchange of human tissue samples among scientists for research purposes in furtherance of that goal, and that according the human source any proprietary interest in cells after excision would inhibit further research and do a great disservice to society generally. Patenting is seen as rewarding inventiveness and accepted as facilitating both the spread of knowledge and the pace of scientific advances.

That is clearly not the only view one could take of the biotechnology industry or of the patent system. Indeed, as Mosk, J. pointed out convincingly in his dissenting Supreme Court judgment in *Moore*, biotechnology has become characterized by a "rush to patent for exclusive use." While free exchange of information and biological material may be the ideal in the scientific community, it is becoming less and less the norm in reality. Research is increasingly linked to profit-motivated commercial enterprise. Patent protection is augmented by "secrecy as a normal business practice" and by additional contractual ties between scientists.

60. See e.g., "Fury Over Patenting Treasures Locked in Body" *Globe and Mail* (23 October 1991) A13: *Patenting Life,* *supra* note 44 at 49, 55. But see "Letter to the Editor" from Dr. Golde, John Moore's physician, indicating that the Mo cell line is available from the American Type Culture Collection for only a nominal fee (*supra* note 21). As my colleague, David Vaver, points out, presumably this would be for the purposes of experimentation. If another researcher developed something different from the Mo cell line, that too might be patentable, but both might have to consent to or licence use of the "improvement" patent. See also R. Fox, *The Sociology of Medicine* (Englewood Cliffs, NJ: Prentice-Hall, 1989) at 206–7, pointing out academic scientists' continuing ambivalence about applying for patents for their work. Fox suggests this is in part attributable to "collectivistic and 'communistic' values of science" and scientists' awareness that their discoveries depended on earlier discoveries by others.

61. *Patenting Life,* *supra* note 44 at 49, quoting William Duffy, a patent lawyer for Monsanto: "Those companies in the private sector which are investing hundreds of millions of dollars in this new science do not accept the theory that patents are unimportant. Such a concept is particularly repugnant to patent-conscious, research-intensive pharmaceutical firms dealing in global markets with drugs which require staggering investments of time and money before ultimately yielding a commercial return. To them the patent shelter is paramount. It is quite literally their sole incentive for risk taking."
Undoubtedly, beneficial products have resulted, but the motive for their production and distribution is not solely or even primarily altruistic. It has also been suggested that patenting itself, far from benefitting society, may simply aid in the concentration of wealth and in increasing profits. Yet none of this critical analysis is reflected in the majority's decision in Moore; the public policy discussion in which the majority engaged was most one-sided. From the viewpoint of that one side, claims by the human source of the tissue were an impediment to progress; claims by scientists and biotechnology companies were essential to advance socially useful work and were accorded the strong protection of a property right.

Although Moore's claims were dismissed to the extent that they depended on establishing a property interest, he was allowed to proceed with his claims of breach of fiduciary duty and failure to obtain his informed consent before removing his tissue, based on the failure to disclose either his physician's research or his economic interest in the cells. Proving entitlement to any significant recovery pursuant to these theories of liability could, however, prove substantially more difficult than had he been able to rely on conversion. The test Moore would have to meet, the measure of damages that would be applied, and the extension of liability to defendants other than Moore's treating physician all present greater hurdles than would establishing conversion, which is essentially a strict liability tort.

The extent of Moore's recovery will await a trial on the merits; what is apparent at this point is that the California Supreme Court has blocked Moore's straightest path to a share in the profits from products developed from the cell line grown from his tissue. To many, that seems intuitively "not right." As Edith Deleury has observed: "Certes il peut apparaître choquant que ces substances, objet d'une cession à titre gratuit, puissent être génératrices de profits pour des tiers." The

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63. Ibid. at 181, 161, and see supra note 61.
65. Moore would have to establish that if he had had the additional information, he would not have consented to the procedures. In the circumstances, this would be a difficult test to meet, at least vis-à-vis the original splenectomy, as it was life-saving, and some follow-up care was obviously necessary as well. But see J. Broussard's suggested relaxation of the test in these circumstances (Moore (S.C.), supra note 19 at 167.
66. A difficulty recognized by the majority in its judgment. See Moore (S.C.), supra note 19 at 153–54.
67. A reaction discussed further in the text accompanying note 81.
68. Supra note 36 at 471. She goes on to adopt the view that the addition of scientific labour and expertise transforms the substances such that they are no longer a product of the human body.
researchers and drug companies can own the cell line and control what others do with it and Moore cannot; they can even own the cells of his body and control what others can do with them and he cannot. Somehow, this does not sit well.

**Property Rights in Human Tissue?**

So then one asks, what if the property rights analysis that found favor with the Court of Appeal had prevailed? Would it prove a better vehicle to protect human dignity and privacy and to ensure that physicians and other third parties are not enriched (unjustly or otherwise) quite literally off the backs of patients? At first glance, the solution is appealing. In the United States, a number of writers have argued forcefully that there is a necessary interconnection between property and personhood—that an individual needs some control over resources in the external environment in order to achieve proper self-development, and that the necessary assurances of control take the form of property rights. Margaret Radin has been one proponent of that school of thought. In connection with that thesis, she has suggested that "[i]f property in one's body is not too close to personhood to be considered property at all, then it is the clearest case of property for personhood."69 The Court of Appeal's decision in *Moore* can itself be regarded as an example of this type of thinking, with its emphasis on property rights in one's body being protective of and instrumental in promoting privacy and human dignity.70 It is interesting that both levels of court seemed to proceed from the premise that if Moore retained a sufficient degree of control over the cells, then he had a proprietary interest in them. That raises questions as to why the presence or absence of an ability to exercise some degree of control over an object is automatically translated into a property right, with all the other implications that term carries with it, and how the characterization of the cells as an object quickly became a self-evident truth, when they were (at least originally) indisputably a part of a human subject, John Moore. Why is it that neither court in *Moore* stopped for even a minute in its legal analysis at some halfway house—for instance, recognizing the continuation of certain rights of control over excised tissue without having to make the stronger claim for the control being equivalent to or a manifestation of "property rights"?

This tendency to automatically equate control with property rights is marked when we think of individuals and their own bodies. It is interesting and perhaps more than coincidental that the language we use with respect to body parts—"my hand," "your foot," and so on—is interchangeable with the language of possession and, indeed, of ownership.71 Whether or not it is borne out in practice (and there

71. The relationship between the language of possession, kinship, and proper body parts is
are often major departures from the ideal\textsuperscript{72}), a property right is commonly considered one of the strongest claims that can be asserted to be able to exclude others and assert our own dominion. Perhaps the tendency to think in property terms relative to body parts arises because part and parcel of a property right is the implicit posting of the biggest, most unequivocal "Keep Out" sign that we know of, and that is precisely the message we want to give about our bodies.\textsuperscript{73} In this context, then, a property claim is valued for its supposed unequivocal support for boundary-drawing. The ready resort to the language of property is related strongly to a generalized belief in its inviolability—the belief that property rights are somehow more secure than other rights, despite historic examples to the contrary, and despite knowing that property rights exist only so long as and as far as the state is prepared to enforce them. The generalized belief, then, is in part wishful thinking; its specific application to individuals and their own bodies would likely be as well. The tendency to think in terms of property rights may be in part a response as well. As the factual background in \textit{Moore} makes evident, others clearly already regard parts and products of the human body as property, giving rise to a felt need for the strong power of a property claim in the human source to withstand those incursions.

Recognizing property rights in human tissue, though, can be a two-edged sword. Doing so would represent a clear, strong acknowledgement of a continuing right of control over one's "self," at least the corporeal aspect. Given current high levels of approval of ideals of autonomy, bodily integrity, and self-determination in our society (now even enshrined in the \textit{Canadian Charter of Rights and Freedoms}), that is consistent with widely accepted societal norms.\textsuperscript{74} At the same time, it can be a short step from being property of and for oneself to being property of and for someone else, as the sale of kidneys and other types of human tissue in countries where such practices are legal or tolerated makes graphically evident.\textsuperscript{75} It should be borne in mind that it is most often the dispossessed who are

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\textsuperscript{72} See D. Kennedy & F. Michelman, "Are Property and Contract Efficient?" (1980) 8 Hofstra L. Rev. 711, analyzing the institution of private property and the malleability of much of what is thought constitutive of "property."

\textsuperscript{73} Or perhaps more accurately in this context: "Use only with Owner's Permission and on Owner's Terms."


\textsuperscript{75} See World Health Organization, \textit{Human Organ Transplantation} (Geneva: WHO,
left with few options other than to sell their remaining "possessions"—parts of their bodies. The choice of legal categories in this area cannot be made absent an appreciation of the influence of factors of wealth and class and the pressures they will exert on those least well-off and least powerful in society. Recognizing property rights in one's own person will do little to enhance human dignity and autonomy if it results in selling bits and pieces of one's self in order to secure the means of existence.

An additional factor to consider is one also suggested by Margaret Radin. She notes that with property, as in so many other areas, the rhetoric used shapes and is shaped by reality. If one resorts to the language of property, then that tends to bring with it other concepts that we associate with a property regime in addition to the right to exercise control over the material owned. In particular, "property" imports with it market concepts—an economic orientation. Radin points out some risks of this—the inherent distortion, as easily monetizable matters occupy the center of the map and personal and community matters move to the (distorted) edges of the discourse, and the tendency to conceive of everything—even personal characteristics—as alienable objects rather than personal attributes. This tendency is exemplified by the claim of the defendant Sandoz Inc. in Moore that the plaintiff's cells could be the subject of the exercise of U.C.L.A.'s powers of

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76. See R. Titmuss, The Gift Relationship: From Human Blood to Social Policy, supra note 12, dealing with the history of the sale of blood and blood products in the United States. Conversely, prohibiting sales of even regenerative human tissue in order to safeguard human dignity will be cold comfort if nothing is done to address the needs that would drive people to that as a solution in the first place.


78. Ibid. at 1880-81.
eminent domain. Sandoz argued that if Moore had a proprietary interest in his cells, he had lost it through U.C.L.A.'s exercise of that right—in other words, Sandoz asserted that as an institution of higher learning, U.C.L.A. had the right to expropriate property it needed, and it had done so to Moore's cells. It is unclear whether Sandoz seriously relied on this argument, or whether it was put forward to graphically illustrate the parade of horribles that would follow if the source of human tissue were recognized as having continuing property rights in it. In any event, the Supreme Court found it unnecessary to deal with this argument.\(^7\)

Categorizing something as "property" does not stop with or signify only the right to control; it also carries with it expectations of a market model and market behaviour as the norm. The property, whatever it may be, becomes something it is thought appropriate to buy and sell through a market.\(^8\) Once one adopts the language of property in order to obtain its strong protection for the right of control, one cannot necessarily control all the associations that the institution of property will bring with it—expectations of economic exchange value, rights of alienability, and so on. Even though legislation can limit the rights generally ascribed to an owner of property (and this is typical in many contexts—property rights are not absolute), there is often a sense that in doing so, one is taking away something that is rightfully the owner's—diminishing the owner's entitlements, somehow—rather than enhancing or refining the ability to achieve the policy goals intended in recognizing a property interest in the first place.

How do these general propositions about the expectations inherent in a property claim fit with the situation of John Moore and the response I adverted to earlier that the result in that case strikes many as somehow "not right"? Frequently, the reaction on the part of those reading the Supreme Court decision or simply hearing of the case is that Moore was unjustly "done out of" something. That sense does not grow exclusively out of a conviction that Moore ought to have had or at least have been offered the chance to exercise a continuing right of control over the tissue taken from his body because it was part of his autonomous self. It is also very much a sense that he was deprived of his fair share of the economic rewards to be garnered from the products developed from his cells. The loss to Moore that audiences identify is not just (and perhaps not even primarily) the loss of control, but the loss of a market share—the economic loss. The unfairness

\(^7\) Moore (S.C.) supra note 19 at 164, note 44.

\(^8\) A process Radin refers to as "commodification" (supra note 77 at 1855, note 24). For some indication of the ramifications of treating body parts as property and the "fantastic" questions that would have to be resolved, see R. Scott, The Body as Property (New York: Viking Press, 1981) at 184–85 (applicability of sale-of-goods laws, liability to income and capital gains taxation, permissibility of nonmonetary and future consideration—for instance, present donations in return for future guarantees of priority should blood or organs be required later, or present payment in return for delivery of one's body after death, and many others).
typically identified is that nobody else—no other player in the scenario—was precluded from asserting a property claim in all its commonly understood aspects, including economic. Justice Arabian in his concurring Supreme Court judgment in Moore argued that denying the human source any continuing proprietary interest in excised tissue would preserve human dignity and serve to keep the sacred apart from the profane. 81 It is certainly true that human beings are regarded as having such status and entitled to that level of respect. However, it has been suggested that with advances in technological capabilities and possibilities over the last few decades, it is not so much the legal status of the human person that is at issue as it is the status of the body and body parts. 82 The two are not necessarily the same. In any event, Justice Arabian's argument seems a faint hope when it is quite clear that the marketplace—the economic regime—can and does govern in this area for everyone else. There is now an economic value to at least some corporeal personal attributes, in addition to their noneconomic value. Refusing to adopt a particular discourse (property rights for the source of human tissue) may affect who shares in that economic value, but it will not alter that reality. Moore does not change the existence of that market; it simply excludes the human source of the tissue from sharing in it as a co-owner or originator.

It may be that the economic factor assumes such significance in Moore not only because of the large amounts of money potentially involved, but also because in the circumstances, there is no direct, one-to-one "gift of life," as with blood donations or inter vivos or even cadaveric organ donations. The transfer is mediated by profit-making others, "the biotechnology companies and researchers," making it more normatively acceptable for the human source to profit from what his or her tissue has become as well. Biotechnology companies may not be far wrong in asserting that cell lines and their derivatives are products, no longer in any way part of a person. 83 It is perhaps because the material has lost its "personified spirit," its association as a part of one's self, that the source can think of profiting

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81. "Plaintiff has asked us to recognize and enforce a right to sell one's own body tissue for profit. He entreats us to regard the human vessel—the single most venerated and protected subject in any civilized society—as equal with the basest commercial commodity. He urges us to commingle the sacred with the profane. He asks much." (Moore (S.C.), supra note 19 at 164 (emphasis in original).

82. See Hermitte, supra note 8 at 324, 326–27.

83. See also Deleury, supra note 36 at 471 to the same effect, and Law Reform Commission of Canada, supra note 16. But see Hermitte, supra note 8 at 334, referencing the analysis of René Savatier: "les substances d'origine humaine ne se déshumanisent jamais totalement, même lorsqu'elles s'éloignent de leur source: dans la substance totalement transformée par l'industrie perdure quelque chose de l'origine humaine." In this context, one of the questions that remains is whether the material retains something of or some connection with the specific human source, or whether the material is still "human" only in a generic sense.
from it—can think of selling it. The distancing both from the source and the ultimate human recipient occasioned by the structure and process of biotechnological research, product development, and marketing plays a large role in changing conceptions of the subject matter of this lawsuit from part of a person (subject) to a commodity (object).

These observations must lead one to question whether the debate about property rights in human tissue has been overtaken by events. While it would seem that for the reasons identified earlier, property may not be the wisest choice of discourse in this area, we live in a world already made. That world may have irretrievably and irreversibly shaped the discourse in this area. This is a field where mere possibilities become practice very quickly, leaving legal theorists far behind. The biotechnology industry makes extensive and ever-increasing use of human tissue in its products. To refer back to what are often put forward as three of the constitutive elements of property, biotechnology companies and scientists assert

84. See R. Scott, The Body as Property, supra note 80 at 179–97 for examples of existing markets in “human materials” such as blood. Scott clearly details the toleration of such markets even in societies where official opinion opposes the concept.

85. In a survey done for the Office of Technology Assessment in the United States in the mid-1980s of the 400 companies in the United States in the biotechnology field, all reported using human tissue in product development. Additionally, 49% of university scientists surveyed reported using human cells and tissues in their biomedical research. The number of samples of human tissue used was in the tens of thousands. See W. J. Curran, “Scientific and Commercial Development of Human Cell Lines” (1991) 324:14 New Eng. J. Med. 998 at 999. See also Ownership of Human Tissues, supra note 22, c. 4.

86. See, e.g., Snare, supra note 34. In an interesting counterpoint to this view of property, it has been suggested that among research scientists, given the “institutionalized norms of ‘disinterestedness’, ‘humility’ and ... ‘the communism of intellectual property’, ... property rights in science [i.e., to scientific discoveries] become whittled down to just this one: the recognition by others of the scientist’s distinctive part in having brought the result into being.” In other words, scientific norms would preclude the scientist from exercising the usual concomitants of a property right, particularly the ability to exclude others from access to or to regulate their use of the discovery in scientific work. Recognition of one’s originality becomes the property right; the right of recognition is the “single property-norm.” See R. Fox, supra note 60 at 206, 209, quoting R. K. Merton, “Priorities in Scientific Discovery: A Chapter in the Sociology of Science” in The Sociology of Science (Chicago & London: University of Chicago Press, 1973) at 294–96. The implications of these differing conceptions of the constitutive conventions of property as between scientists and the larger (or perhaps just the legal) community are beyond the scope of this paper. Merton first wrote on this topic in the 1950s; it would seem that with the ever-expanding reality of an economic potential to discoveries in the biological sciences, scientists’ views of property have become more like the general norm (see supra notes 59–64 and accompanying text.)
and are accepted as having rights to use human tissue, to exclude others from its use, and to transfer it to others. As we saw in Moore, it is possible to obtain a patent on a cell line developed from human cells (although the situation may be somewhat different in Canada\(^8^7\)). The reality is that human tissue is already treated as property. Because biotechnology organized along private enterprise and private property lines is widely accepted as having had and continuing to have significant beneficial results, there is unlikely to be a willingness or ability to entirely turn back the clock on that development.

At an instrumental or reactive level, the argument really is over whether the human source of tissue will have any claim to a continuing interest in it, particularly to a share in its economic value, and if so, how best to structure that participation. More fundamentally, the specific issue raises a multitude of questions about how the use of material of human origin ought to be regulated, to what ends, and with what effects. It is easy to lose sight of the larger concerns in responding to the particular fact situation. Those larger concerns are too important to be subsumed in the concrete example that fell to be decided in Moore. The factors referenced above may seem to make a property analysis at some level inevitable, but recognizing the forces at work is not necessarily synonymous with accepting present directions in their entirety, far less institutionalizing them. The tensions and risks need to be understood and addressed.

Neither legislation governing patents nor that regulating donations of human tissue addresses this issue. Nor can we look to the common law for an adequate response. Courts are adept at applying traditional legal doctrines and categories and at developing them within limits to meet new situations, but the world of biotechnology does not fit particularly well into existing categories. As the California Supreme Court noted in Moore, conversion as a theory of liability arose in and is generally used to resolve “traditional, two-party ownership disputes ... [such as] whether the loser or finder of a horse had better title.”\(^8^8\) In disputes such as these, there is at least general agreement that the subject matter of the dispute can be owned. Biotechnological developments based on human tissue present very different concerns and raise an array of new moral, ethical, and philosophical questions. Without legislation, courts are unlikely to be able to

\(^8^7\). See Vaver, supra note 64 at 122, noting that while the Canadian Patent Appeal Board has indicated its willingness to accept applications for multicellular life forms (Re Abitibi Co., (1982) 62 C.P.R. (2d) 80 at 90), the Supreme Court of Canada may have made it virtually impossible for applications for life forms more complex than microorganisms to comply adequately with the statutory requirement that the invention be fully disclosed so as to be reproducible by a third party (Pioneer Hi-Bred Ltd. v. Comm. of Patents (1989) 60 D.L.R. (4th) 223 (S.C.C.)). However, the Law Reform Commission of Canada notes that a patent was granted on a human liver cell line as early as 1976 (Patent no. 999, 546 of 9 November 1976) (see supra note 3 at 124, note 778).

\(^8^8\). Moore (S.C.), supra note 19 at 154–55.
move beyond traditional, partial, and inadequate analyses and justifications, such as are evident in Moore. In recognition of these limits, various regulatory regimes have been proposed. These have included a licensing system with fixed profit-sharing for the source of the tissue, \footnote{A system that recommended itself to Arabian, J. in his concurring judgment in Moore (S.C.), \textit{supra} note 19 at 165; see also M. Danforth, "Cells, Sales and Royalties: The Patient's Right to a Share in the Profits" (1988) 6 Yale L. and Pol. Rev. 179 at 198–201.} incomplete commodification to allow the source of the tissue, but no one else, to receive compensation for certain body parts, \footnote{L. B. Andrews, "My Body, My Property" (1986) Hastings Center Rep. 28.} permitting donation of tissue but no other form of alienation, \footnote{Radin, \textit{supra} note 77 at 1917ff; the Law Reform Commission of Canada recently recommended that the purchase or sale of human bodies, organs, and other nonregenerative tissue be made a Criminal Code offence (\textit{supra} note 3 at 184).} allowing \textit{inter vivos} sales of organs in limited circumstances, with compensation being paid by the health insurance system, \footnote{G. Sharpe, "Commerce in Tissue and Organs" (1985) 6 Health Law in Canada 27 at 31.} and requiring biotechnology enterprises to return a share of their profits to the community, specifically to research. \footnote{Deleury, \textit{supra} note 36 at 471–72; Hermitte, \textit{supra} note 8 at 339.} Writers have also canvassed the possibility of establishing a new legal category—"chose humaine et à la finalité humaine"—to reflect a new understanding and appreciation of the nature of materials of human origin and the implications of their use and regulation, \footnote{Hermitte, \textit{supra} note 8 at 325, 339.} as well as a needs-based approach to entitlement to body parts, \footnote{G. Calabresi, "Do We Own our Bodies?" (1991) Health Matrix 5 at 14–18.} and recognizing a common heritage of humankind, specifically in our "collective gene pool," importing public trust concepts and a need to exercise stewardship in the management of this resource. \footnote{Snare, \textit{supra} note 34 at 203.}

**Future Regulation: Preliminary Considerations**

Despite its gaps in coverage, the \textit{Human Tissue Gift Act} could provide a useful starting point for such legislation. It has the advantage of avoiding the tendency to "assimilate all rights to property rights"; \footnote{Snare, \textit{supra} note 34 at 203.} it never does classify tissue or body parts as property or not. Rather than labelling, the statute simply lists the uses of one's tissue to which one may consent, on what terms, and how to go about doing so. The emphasis on donation is central. Nonetheless, some of what it allows is very like the exercise of a property right—for instance, the right to \textit{transfer} one's tissue to another person (presumably of one's choice where that is relevant, as
with inter vivos kidney donation); the right to choose not to do so (a right to exclude); the right (within limits) to choose the use to which one's body will be put after death.

A revised version of the statute that continued this approach, describing rights and duties or obligations of the source and adding a complementary list for the recipient\(^9\) relative to permitted uses of human tissue, compensation, or reimbursement for expenses (if that is thought appropriate) and other issues would allow for the establishment of a regime responsive to these new realities and fine-tuned to achieve desired policy goals. By continuing the current approach, one could avoid the expectation that because some of the rules of property apply, then it necessarily follows that all of the rules that generally prevail vis-à-vis property must also necessarily apply. As with the existing legislation, a new statutory regime could permit the exercise of some of the powers commonly associated with a property right, but need not incorporate all of the economic component that accompanies the institution of property in the normal course. Indeed, one would expect the current emphasis on donation to continue, as it is consistent with societal ideals in this area.\(^9\) Given both the need for human tissue and the great nonmaterial meaning that attaches to transferring a part of oneself for the benefit of others, legislation could reinforce and further promote existing patterns of altruism. At the same time, it may be only realistic to take into account the changed perceptions and motivations on the part of individuals who provide tissue in those instances when it will become a part of economic goods.

Such changes would be reformative rather than transformative. As such, their effect will be at least in part to legitimate existing patterns at the same time as shaping them, and in this context, that means a biotechnology industry organized on a private enterprise and private property model. Even recognizing the very real confines of that “world already made,” legislative reform is important to exert control over the discourse in this area, the direction of development, and the manner and type of use that can be made of material of human origin (and by extension, of the human source from which it is derived). Indeed, it is the very fact that with biotechnology, the world is being made and remade at a dizzying pace that makes the need for a legislative response all the more urgent.

\(^9\) For the source, consent or an ability to opt out of the general type of use proposed may be important where the material is not a conscious gift, as with waste material from operations; for recipients, rights and duties could perhaps vary by the type of use and extend to later recipients as well, such as biotechnology companies employing tissue obtained from a researcher.

\(^9\) On the symbolic significance of and meaning attributed to giving and receiving organs, see R. Fox, supra note 60 at 254–59. See also Hermitte, supra note 8 at 339, who suggests that the visible philanthropic character of the exchange is very important to preserve if one wishes to counter the further reification of the body.
The possibilities for different rules relating persons and objects are many and varied. This is not to say that a range of rules does not already exist with respect to many different types of property. My point is that building a nonproperty regulatory system releases one from the need to classify material of human origin as an "object" in the sense in which that term is commonly understood, and more importantly, from the need to justify departures from the abstract ideal of what is meant by classifying something as property. That ideal—the set of constitutive conventions that make something "property"—exists and is influential, whether or not we depart from it to a greater or lesser extent in various concrete situations with respect to different types of property. The constricting language and concepts of objects and property need not limit possibilities and direct solutions in this area in unconsidered and potentially undesirable ways, as they will do by default if responsibility continues to be left to the Patent Office and research and commercial interests.

100. See Kennedy & Michelman, supra note 72 (detailing many variations in rules and regimes, all under the rubric "private property").