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BUYING AND SELLING HUMAN TISSUES FOR STEM CELL RESEARCH
AND
“NO COMPENSATION” OR “PRO COMPENSATION”: MOORE V. REGENTS AND DEFAULT RULES FOR HUMAN TISSUE DONATIONS

by

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BUYING AND SELLING HUMAN TISSUES FOR STEM CELL RESEARCH

Russell Korobkin

In 2005, the National Research Council ("NRC") commissioned a panel of experts to provide guidelines to the scientific community for conducting human embryonic stem cell research. Among the panel’s recommendations was that researchers should make no payment, in cash or in kind, to any person who donates tissues for stem cell research, including eggs, sperm, adult cells, or frozen early-stage embryos stored at in vitro fertilization ("IVF") clinics.¹

The NRC’s recommendations are consistent with the existing federal funding policies concerning stem cell research. President Bush’s policy permits federal funding of research on human embryonic stem cell ("hESC") lines only if they were created prior to August 2001 and only if they were derived from embryos obtained without financial compensation.² The Stem Cell Research Enhancement Act, passed by Congress but vetoed by President Bush in July 2006, would have expanded the scope of federal funding but maintained the no-compensation requirement.³

California’s Proposition 71, overwhelmingly enacted by the state’s voters in 2004, authorized $3 billion in state bonds to fund stem cell research. But the initiative prohibits payments of a single penny to donors of tissues, gametes or embryos in any research project that receives state funds, other than the reimbursement of direct expenses.⁴ Last summer, the California legislature enacted a law that prohibited any compensation of egg donors for stem cell research even when Proposition 71 funds are not involved.⁵

³ Section 1 of the act reads as follows:
   (a) In General. Notwithstanding any other provision of law (including any regulation or guidance), the Secretary shall conduct and support research that utilizes human embryonic stem cells in accordance with this section (regardless of the date on which the stem cells were derived from a human embryo).
   [provided]
   (b)(3) The individuals seeking fertility treatment donated the embryos with written informed consent and without receiving any financial or other inducements to make the donation.
⁵ CAL. HEALTH & SAFETY CODE § 125355 (West 2006).
The NRC’s position on donor compensation is also consistent with most expert opinion on the issue. The National Institutes of Health guidelines for hESC research provide that “no inducements, monetary or otherwise” should be offered for embryo donation.\(^6\) The American Association of Pediatrics is in agreement as well.\(^7\) In fact, it is hard to find any group in the scientific research or public policy advocacy communities who questions the appropriateness of a no compensation rule.

This overwhelming level of agreement is surprising in light of several observations. First, there is widespread belief that fulfilling the potential of stem cell research and regenerative medicine will require not only a great deal of scientific research but a great deal of raw materials for that research, including early-stage embryos from which hESC lines can be developed, sperm and egg cells to create embryos, egg cells and adult cells for therapeutic cloning, and adult tissues for adult stem cell research.

Second, there is no vocal opposition to scientists, universities, biotech companies, pharmaceutical companies, state governments, lawyers, or health care providers profiting from stem cell research and regenerative medicine. A profit incentive is acceptable for almost everyone. It is only the providers of the necessary tissues, without which the research cannot be done and new medical treatments cannot be developed, who are singled out for remuneration prohibitions.

Third, it is common for researchers to compensate the subjects of clinical medical research, although the amounts are usually small and often framed as payments for the subjects’ time, not the use of their bodies.\(^8\)

Fourth, the remuneration so broadly opposed in the context of stem cell research is, in most contexts, perfectly legal. With one exception,\(^9\) there is no federal prohibition on compensating donors\(^10\) who provide tissues for biomedical research. A minority of states regulate such payments, but they do so haphazardly. And there are thriving markets for some human tissues—most notably sperm and eggs—throughout most of the nation.

This Article argues that the nearly unanimous opinion in the medical research and public policy communities that tissue donors should be subject to a no-compensation rule is misguided, and that purchasing tissues for biomedical research should be both legal and socially acceptable. For readers who remain unconvinced, it then describes less restrictive alternatives to pure no-compensation rules as “second-best” solutions. It concludes by observing the distinct differences between markets for research tissues and markets for transplant tissues.

### I. THE LAW OF TISSUE SALES

The primary federal law relating to the purchase or sale of human tissues is the National Organ Transplant Act (“NOTA”). Enacted in 1984, NOTA specifically prohibits—on pain of fine or imprisonment—the buying or selling of human organs, which it defines to include the

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\(^7\) Am. Ass’n of Pediatrics, Human Embryo Research, 108 PEDIATRICS 813, 815 (2001).


\(^9\) This exception is 42 U.S.C. § 289g-2(a), discussed in Part I below.

\(^10\) Some commentators object to using the term “donor” to describe a person who receives compensation, because the term implies that the transfer is a gift. Because tissue providers are usually referred to as donors, and to avoid the need to switch labels whenever compensation is hypothesized, I use “donor” to refer to the provider of research tissues, whether or not the provision is compensated.
kidneys, liver, heart, lungs, pancreas, bone marrow, cornea, eye, bone, and skin or any subpart thereof, and any other human organ (or any subpart thereof, including that derived from a fetus). The inclusion in the statute’s scope of any “subpart” of any listed organ suggests that even a single skin cell, which conceivably could be used in therapeutic cloning, would fall under the prohibition on sales, however its scope does not encompass renewable tissues, including blood or sperm. More importantly, NOTA’s reach is limited, on its face, to organs “for use in human transplantation.” This language indicates that researchers may buy and donors may sell covered organs for research purposes without running afoul of the statute.

The Uniform Anatomical Gift Act (“UAGA”) is a state law, but its adoption in all 50 states gives it national scope. The UAGA provides that individuals may donate their entire body or “body parts” for transplantation, therapy, research, or education. The Act prohibits the purchase or sale of body parts for use in transplantation or therapy but notably omits research purposes from this prohibition. In addition, the sale prohibition applies only “if removal of the part is to occur after the death of the decedent,” and so does not cover inter vivos transactions. For both reasons, this statute also appears inapplicable to transactions of the type that might be relevant for obtaining raw materials for use in stem cell research.

Furthermore, neither of these statutes with national scope appears to apply, under any conditions, to gametes, which—are especially ova—are likely to be needed in large numbers for stem cell research if the practice of therapeutic cloning becomes widespread. In fact, a federal law criminalizes the donation or sale of HIV-positive gametes, which seems, by implication, to recognize the validity of purchases involving uninfected gametes.

Ultimately, there is only one federal statute that interferes with the right to buy or sell human tissues for research purposes, and its scope is limited. As part of the NIH Revitalization Act of 1993 that provided federal support for fetal tissue research, Congress criminalized any purchase or sale of human fetal tissue procured from induced or spontaneous abortions.

Many states have enacted legislation prohibiting the sale of organs and/or tissues in particular circumstances. Most of these, like NOTA, are specifically limited to organs and tissues for transplant. A minority of states—at least nine, in addition to the recent California law specifically targeting egg donation for stem cell research—have statutes that appear to prohibit tissue sales for research purposes as well. A few of these exempt renewable tissues, such as

14. Accord Radhika Rao, Property, Privacy, and the Human Body, 80 B.U. L. REV. 359, 376 (1999). It is less clear whether, if regenerative medicine achieves its full potential and stem cells are used directly as therapeutic agents, NOTA would prohibit the sale of tissues for the purpose of creating therapeutic stem cells.
15. All 50 states and the District of Columbia adopted the 1968 version of the UAGA. A minority of states subsequently adopted the 1987 revised version. For a complete list of statutory citations, see Eric B. Seeley, Note, Moore 10 Years Later—Still Trying to Fill the Gap: Creating a Personal Property Right in Genetic Material, 32 NEW ENG. L. REV. 1131, 1153–54 n.204 (1998).
16. UNIF. ANATOMICAL GIFT ACT § 6(a) (1987).
17. UNIF. ANATOMICAL GIFT ACT § 10(a) (1987).
18. UNIF. ANATOMICAL GIFT ACT § 10(a) & cmt. (1987).
21. FLA. STAT. ANN. § 873.01 (West 2006); GA. CODE ANN. § 16-12-160 (West 2006); 720 ILL. COMP. STAT. § 5/12-20 (West 2006); MD. CODE ANN., HEALTH-GEN. 1 § 5-408 (West 2006); MASS. GEN. LAWS ANN. ch. 111L, § 8 (2006); MICH. COMP.
blood and sperm. At least one state (Virginia) groups ova with renewable tissues and excludes them from the ban. (Ova, unlike blood and sperm, are strictly speaking not renewable, although the number with which each female is born is so substantial there is no realistic possibility of running out.) Louisiana, in contrast, does not ban tissue sales for research purposes generally, but it bans the sale of ova for all purposes.

That the Louisiana law is anomalous is indicated by the fact that, in most states, gametes are actively bought and sold for reproductive purposes. Agencies recruit women as potential egg donors and actively market their eggs to infertile couples who wish to purchase ova for in vitro fertilization and, hopefully, the creation of a baby. In the typical case, potential purchasers can view photos of the potential donors and learn about their physical attributes, health history, and life accomplishments. Some agencies allow the potential purchasers to conduct live interviews. Donors who are selected, or hired, typically receive between $2500 and $10,000 for one ovulation cycle, although advertisements in college newspapers routinely offer $50,000–$100,000 or more for ova from women with certain physical characteristics or intellectual achievement. The donation requires the injection of the donor with hormones for 7–10 days, resulting in the hyperstimulation of her ovaries, followed by a minor surgical procedure in which eggs are harvested directly from the ovaries with a needle inserted through the vagina. The agencies that match purchasers with donors usually receive a fee for their services from the purchasers above and beyond the payments made to the donors.

A similar market exists for sperm, although the dollar figures are far lower—$25–$100 per donation—and the market is structured slightly differently. Rather than waiting for a purchaser to select a sperm donor, sperm banks that serve as intermediaries usually pay donors directly to provide sperm for the bank. In some cases, intermediaries broker specific transactions between purchasers and donors, as is usual in the case of egg donation.

It is unsurprising that more states prohibit the sale of embryos for research purposes than prohibit the sale of other tissues for research purposes. But, at approximately 13, the number of states with prohibitions is still quite small. There is no federal law that does so.
To summarize briefly, the full range of human tissues likely to be useful in stem cell research can be bought and sold freely for that purpose in approximately 75 percent of U.S. jurisdictions. The remaining jurisdictions prohibit the sale of various specified tissues, and at least some of their regulations have somewhat ambiguous language that has never been interpreted by courts. Following NOTA’s rules concerning the transfer of organs for transplants, many jurisdictions that prohibit tissue sales often explicitly permit payment to donors to compensate for costs incurred in making the donation, including indirect costs such as travel, housing, and lost wages, in addition to the direct cost of tissue extraction.

II. ARGUMENTS FOR NO-COMPENSATION RULES

The widespread opposition of experts in the field of biomedical research to compensating tissue donors might suggest that there are powerful arguments in support of no-compensation rules, especially in light of the fact that most tissue sales for research purposes are perfectly legal. In fact, none of the common arguments for no-compensation rules—that compensation risks coercion, that it undermines human dignity, that it crowds out the possibility of altruistic donation, and that it increases the cost of biomedical research—stand up well to careful examination.

A. Involuntariness and Coercion

The most widespread argument within the medical research establishment for a no-compensation rule is that compensation undermines the voluntariness of the donation decision and can be coercive. This view clearly animates the recommendations of the NRC Guidelines that no cash or in-kind payments be made to donors of oocytes, sperm, or somatic cells for stem cell research, with the exception of the reimbursement of direct expenses of the donation procedure. It also lies behind the position of the ASRM Guidelines, which acknowledge the need to compensate egg donors for in vitro fertilization (“IVF”) but argue that ethics demands a ceiling be placed on payment—specifically, that compensation should never exceed $5000. A closely linked concern is that payments will result in a greater rate of donation by the economically disadvantaged, since their greater need for money is more likely to make payment seem coercive. This argument relies on particularly unusual definitions of “involuntariness” and “coercion.”

A voluntary action is generally understood to be one taken as a result of free will. Although the concept of free will is itself subject to various interpretations, none would render a decision to provide tissue any less voluntary if financial compensation is offered than if it is not. If no material compensation is offered, a potential donor must decide whether the personal gratification of participating in potentially important research outweighs the risks and inconvenience of undergoing whatever procedure is necessary for donation. If compensation is offered, a potential donor must conduct the same calculation, but an additional factor—the

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32. NRC GUIDELINES, supra note 1, at 70–72 (Recommendation 16).
amount of compensation—is added to the positive side of the ledger. The psychic benefits of altruistic donation will appeal to some, cash payments will appeal to others, and a combination of these enticements will appeal to a third group. As long as the donor is fully informed of the risks and inconveniences involved, and may choose to make the donation or not, the decision is an equally voluntary one in both cases.

A person who, for example, agrees to donate ova for a fee of $5000 decides that the benefits she can obtain with that amount of money outweigh the costs and risks of donating. Prohibiting the transaction would make the donor worse off than she otherwise would be according to her own calculation, perhaps by making it impossible for her to purchase food, shelter, or, perhaps, to pay for IVF services to help her conceive her own child or to finance her college education. One can claim that a prohibition that limits her choices is in her best interest only by assuming that she is incapable of making a reasoned decision that maximizes, or at least promotes, her utility. This paternalistic move is more than a little condescending to potential donors, especially if the requirements of informed consent are taken seriously and researchers clearly explain all of the risks associated with donation before accepting even altruistic donations. When the issue is donations that only women are in a position to make—in the stem cell context, the donation of ova—the suggestion that donors are not able to make a voluntary decision when money is at issue takes on the added connotation of gender stereotype and discrimination.

It is possible, of course, that a lack of information or education, or the presence of cognitive heuristics with which people analyze that information, often in biased ways, will lead them to make choices that are bad for them, even given their subjective preferences. If so, paternalism, in the form of preventing people from making choices, can be justified. Federal research regulations for research involving human subjects, known as the “common rule,” implicitly recognize this possibility and create a regulatory structure that takes it into account. Under the common rule, which is applicable to most stem cell research, an institutional review board (“IRB”) must independently determine that the potential benefits of any approved research project justify any accompanying risks. If the risks associated with making a particular tissue donation are so great that society believes potential donors would be made worse off by taking the risk, even in light of compensation offered, it logically follows that the risks are certainly too great for an uncompensated donor to accept. Yet proponents of no-compensation rules in the context of stem cell research believe that fully informed altruists should be permitted to serve as tissue donors. This contradiction undermines the fear that, as the NRC Guidelines put the point, payments

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35. In arrangement known as oocyte sharing, some fertility clinics charge women seeking IVF treatment a lower fee—sometimes as much as 50% lower—in exchange for donating oocytes to other women. See ASRM, Financial Incentives, supra note 33, at 240–41.


37. See generally 45 C.F.R. § 46 (2007). The common rule has been adopted verbatim by seventeen federal government agencies responsible for the federal funding or regulation of research.

38. The requirements of the common rule apply to research conducted with federal funds and research conducted by institutions that receive federal funds and have agreed to subject all of their research to the requirements of the common rule, even when an individual project is not federally funded. Any research that will lead to a request for marketing approval from the Food and Drug Administration (i.e., requests for approval for drugs or biologics) must be conducted in accordance with very similar FDA regulations. See Russell Korobkin, Autonomy and Informed Consent in Biomedical Research, 54 UCLA L. REV. 605, 612–14 (2007).

might “create an undue influence or offer undue inducement that could compromise a prospective donor’s evaluation of the risks or the voluntariness of her choices.” The offer of money no doubt would change the cost-benefit calculation of a potential donor, but there is no good reason that it would blind most donors to items on the cost side of the ledger that they would otherwise take into account. It is of course possible that the lure of money would cause some potential donors to completely overlook the risks involved, but the lure of the “warm glow” of altruism could cause other donors to completely overlook the risks as well, and IRB approval of the research will ensure that such potential shortcomings in the decision making processes of some individual donors will not lead to participation decisions that are objectively terrible.

An action is usually understood to be coerced if the actor is threatened with a negative consequence or penalty, relative to what he could expect to occur in the normal course of events, if he does not take it. By this definition, convincing a person to take an action by offering an enticement is not any more coercive than it is inconsistent with voluntariness. Providing people with positive options that they might be tempted to accept can create decision stress and, consequently, it isn’t always the case that more choices are desirable, as economists usually assume. But offering people money, no matter how much, to do something that they might not choose to do, while it might create a hard choice, is definitely not coercive.

In 2005, just before South Korean scientist Woo Suk Hwang’s claims to have used cloning technology to create human embryos were found to be fraudulent, a scandal erupted when word leaked that two of the junior members of his research team had donated eggs for the research effort. The press reported that this raised the fear of coercion, and, in this context, use of that term was appropriate. Quite unlike offering payment to individuals unconnected with the research, accepting donations from subordinates of a researcher presents a real risk of coercion: If she declines to participate, the would-be the donor might be threatened, explicitly or implicitly, with the loss of job benefits or advancement opportunities that she otherwise would reasonably expect.

Because compensation will most likely increase the number of donors, payment actually reduces the overall risk of coerced donations. The greatest risk of donors feeling coerced to contribute tissues to research, outside of the Hwang context, is likely to arise when family or friends suffer from diseases under study and the number of volunteer donors is insufficient to support the research. In this situation, potential donors might perceive that a refusal to donate will be punished with social ostracism. A donor shortage could also cause physicians and other healthcare providers who have a personal or professional interest in scientific progress to pressure their patients to donate. This too has the potential to be coercive if patients fear a reduction in the quality of their care if they refuse, whether or not the provider intends to make such a threat. The more people who are enticed to make voluntary donations, the lower the likelihood that these types of coercion, which are difficult to detect and police against, will take place.

Some opponents of compensation who fear that payment undermines voluntariness are motivated by a paternalistic belief that potential donors do not know what trade-offs best serve their interest. Others are no doubt motivated by an unstated belief that providing tissue for compensation might maximize the utility of donors given the constraints they face but that this

40. NRC GUIDELINES, supra note 1, at 86.
should not be so. Women should not have to choose between selling their ova for science and working in a menial job, or feeding their children. Couples should not have to choose to donate excess embryos from IVF treatment in order to afford IVF treatment and have children of their own. All people should be entitled to meaningful work, sufficient food and shelter, and the best medical technology.

The flawed, magical thinking that underlies this reasoning should be obvious. Wishing away difficult or unpleasant choices in no way assists the people who face the choices. In a capitalist society with an unequal distribution of resources, it is inevitable that the inducement of compensation will affect some people more than others, and that people of lesser means will be more likely to donate at any given payment level than people of greater means. The well-to-do rarely accept dangerous, dirty, or unpleasant jobs, whereas the near-destitute often do. Society’s usual response to this fact of life is not to prohibit the poor from accepting such employment and suggesting that the work should instead be done by altruists, but by making conditions as safe as reasonably possible and allowing the market to provide a risk premium for such labor.44 It is not clear why potential donors of human tissues, when such donors are needed for important medical research, should be treated differently from potential coal miners, when such laborers are needed for energy production. Coal mining is unpleasant, often dangerous, and correlated with a reduction in lifespan. This rarely leads to suggestions that altruists should mine coal free of charge.

Margaret Radin, who has argued forcefully that government should place limits on what can be bought and sold in the marketplace, concludes that it would be hypocritical to prohibit sales of items solely on the basis of the fact that monetary inducements create hard choices for some people in our society without simultaneously drastically reorganizing the social allocation of resources to create a far more egalitarian nation.45 The obvious, if often overlooked point, is that a person faced with a choice between two unpleasant options is not helped when a regulatory authority eliminates the more preferred of the options without also offering a better one. Robert Veatch, long a proponent of no-compensation rules in the context of organ donation, now opposes them based on the same reasoning: “a society that deliberately and systematically turns its back on the poor” would be “even more immoral . . . to withhold the right of the desperate to market the one valuable commodity they possess.”46

Radin’s and Veatch’s pointed analyses are correct as far as they go, but even they underappreciate the problem. It is not the unequal distribution of resources, which in theory could be remedied, that requires individuals often to choose between two goods when they would prefer to have both. The cause of such hard choices is the unalterable fact of resource scarcity. Even if resources were distributed equally amongst all citizens, no one would have everything he or she would like to have, and monetary inducements would tempt some to barter what they have for what they would prefer.

To summarize, assuming informed consent is obtained before any monetary inducements are accepted or provided, tissue donations made in return for valuable consideration—like other more ordinary types of transactions—are fully voluntary and not coercive. On the contrary,


prohibiting such transactions would infringe upon the freedom of potential donors. If there is reason to believe that potential donors are unable to make decisions that maximize their subjective utility given the constraints they face, prohibition might be justified, but the prohibition should extend to altruistic donations.

**B. Anti-commodification**

A second common argument in support of no-compensation rules is that treating tissues as marketable commodities is an affront to human dignity that harms society as a whole. Radin suggests that permitting gifts but prohibiting sales can be appropriate when it is the use of “market rhetoric” in the conception of the interrelationship between people and a good that “creates and fosters an inferior conception of human flourishing.” In other words, treating an item that is fundamental to personhood in the realm of market transactions suggests a commensurability between personhood and money that devalues the former. Leon Kass, the former chair of the President’s Council on Bioethics, puts the point more bluntly: “[I]f we come to think about ourselves like pork bellies, pork bellies we will become.”

For Radin, the potential harms of commodification justify allowing parents to give up their children for adoption but prohibiting baby selling: If babies could be sold for cash, both babies and the adults they will grow into—as well as their individual attributes—would be conceived of as commodities, and the creation of the perception of people as commodities would be socially destructive. Even assuming that Radin’s empirical claim is correct in this context, the question remains as to whether permitting compensation for human tissues would have the same ill social effects as permitting compensation for human beings themselves. For such an analogy to be persuasive, however, we would need broad social agreement (which almost certainly does not exist) on a theory of personhood that includes within its definition every individual human cell. Otherwise, to borrow Kass’s analogy, although we might well come to view individual disembodied human tissues like pork bellies, there is no reason to fear we will come to view persons like pork bellies.

Of the types of tissues needed for stem cell research, specialized adult tissues present the clearest example of the weakness of the anti-commodification argument. Suppose, for example, that a researcher wished to obtain skin cells from persons with a particular rare genetic mutation, with the hope of creating a hESC line containing the genetic mutation using the process of therapeutic cloning. An anti-commodification argument against allowing the scientist to compensate the donors would emphasize the potential psycho-social harms that market transactions would create. But what social meaning is expressed by the sale of skin cells? One possible interpretation is that our society considers humans beings to be mere commodities,

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47. See, e.g., Baum, supra note 34, at 134–36; Charlotte H. Harrison, *Neither Moore nor the Market: Alternative Models for Compensating Contributors of Human Tissue*, 28 AM. J. L. & MED. 77, 89 (2002). This argument was made eloquently in a concurring opinion in *Moore*, when Justice Arabian complained that John Moore “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.” *Moore*, 793 P.2d 479, 497 (Cal. 1990) (Arabian, J., concurring).

48. Radin, supra note 45, at 1912.


commensurable with toasters and widgets. But this interpretation requires equating the moral worth of skin cells to that of human beings. Another possible, and far more plausible interpretation of the social meaning of such a transaction, is that it reflects not at all on human dignity because what it means to be human transcends a handful of particular cells.\textsuperscript{52} We all shed cells naturally every day, but few if any among us grieve for the loss of a portion of our humanity as a result, simply because we do not think of our skin cells as central to what makes us, us.

The sale of human eggs presents a more difficult case because it raises not only the question of whether commercializing tissues is harmful to human dignity but also whether selling the right to conduct a bodily invasion to procure those tissues constitutes such an affront. But, as noted above, sales of eggs in the IVF context is widespread. According to the Centers for Disease Control, more than 14,000 cycles of IVF and related procedures are attempted each year in the United States using donor eggs.\textsuperscript{53} A recent Google search for “‘egg donation’ + compensation” returned 41,500 results.\textsuperscript{54} There is no evidence that indicates this active market undermines the dignity of women but, even if it does, permitting a slight expansion of the market to include egg donations for research purposes is unlikely to have much of a marginal effect.

The sale of eggs for IVF is, in fact, much more troubling than the sale for stem cell research would be because IVF donors routinely are selected because of their physical attributes or talents.\textsuperscript{55} The implication associated with IVF egg donation that prettier, smarter, or more accomplished women are worth more than others implicitly undermines the equal dignity to which every person is entitled. This effect presumably is absent in the research tissue context, in which genetic diversity might be valued but no specific attributes would be favored over others. Of course, the fact that only members of one gender can contribute the large number of eggs that might eventually be needed for stem cell research does render theoretically possible the development of a dehumanizing view of women as inputs to scientific research. Not only does this seem far-fetched, however, it is also unclear how this risk would be less if altruistic donation were permitted and prohibitions levied only on payment.

Arguably, embryo sales create the greatest risk of the commodification of human beings, and thus present the strongest case for a no compensation rule. This is because the sale of embryos seems most closely analogous to the selling of babies. .It is, thus, unsurprising that more states have prohibited the sale of embryos than the sale of somatic tissues or gametes.\textsuperscript{56}

There are several problems with this view, however. First, there are obvious differences between early-stage embryos and children— including, but not limited to, a lack of neural function and consciousness—that undermine arguments that the former possess the attributes of

\textsuperscript{52} C\textsuperscript{f}. David B. Resnik, \textit{Regulating the Market for Human Eggs}, 15 BIOETHICS 1, 6 (2001) (“One problem with [the] deontological argument against commodification [of human eggs] is that it implies that human oocytes have the same moral status as human adults, children, or fetuses . . . . Most people would not hold that human eggs have the same moral worth as children, adults, or even embryos.”).

\textsuperscript{53} \textit{C\textsuperscript{t}rs. for Disease Control & Prevention, 2003 Assisted Reproductive Technology Success Rates, § 4, available at http://www.cdc.gov/ART/ART2003/section4.htm}.

\textsuperscript{54} Search conducted on November 6, 2006.


\textsuperscript{56} See \textit{supra} note 30 and accompanying text.
In vitro embryos lack even the potential to become persons without severe human intervention, distinguishing them from in utero embryos.  

Second, for people who equate in vitro embryos with children, even uncompensated donation of embryos for research purposes is inappropriate. Unlike uncompensated adoption of children, which results in treatment of the children in a way that is appropriate given their status as persons, donation of embryos for research results in the use of the embryos for the sole benefit of others. In other words, if the premise that embryos are persons is accepted, it is the use of embryos for research that is the fundamental problem, not the market rhetoric that might accompany such use if the compensation were to be permitted.

Third, while compensation for embryo donations might appear more problematic from one perspective than compensation for other research tissues, from an equally plausible competing perspective the practice would be less of an affront to human dignity than compensation for other research tissues, such as human eggs. Embryos created ostensibly for IVF treatment can be donated for research purposes without the bodily invasion that is often necessary to procure other types of tissues useful for stem cell research. Thus, insofar as any affront to human dignity created by selling tissue is a consequence of the physical invasion of the body necessary to obtain the tissue, compensation for embryos should be considered relatively less problematic.

Further, a plausible argument can be made that, given the primary role that the IVF process currently serves in the production of embryos, prohibitions on compensation for embryo donation could actually undermine society’s special respect for the dignity and value of human life. IVF treatment can cost tens of thousands of dollars, and most people unable to conceive on their own are not fortunate enough to have health insurance that covers these costs. For many infertile couples, the ability to receive compensation for excess embryos created through the IVF process would enable them to afford what would otherwise be prohibitively expensive. If the ability to procreate is viewed as an important element of personhood, permitting those in need of IVF to receive compensation for excess embryos can promote human dignity rather than undermine it.

C. Crowding Out Altruism

A completely different argument against compensation emphasizes the negative effect that the availability of compensation theoretically could have on the practice of altruistic donation. Two versions of the concern about the “crowding out“ of altruism can be distinguished, although proponents often conflate the two. One version seeks to protect the ability of altruism to flourish in society. In the book that is the standard citation for the crowding out theory, The Gift Relationship, Richard Titmuss argues against paid blood donation by claiming that allowing the market to operate can “place men in situations in which they have less freedom or little freedom to make moral choices and to behave altruistically if they so will.” The other version is entirely consequentialist in nature: The availability of compensation might result in fewer donations to medical research because the number of potential donors that would be induced by money is less than the number of potential donors that would be induced by the

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58. Id.
59. See Anna Mulrine, Making Babies, U.S. NEWS & WORLD REP., Sep. 27, 2004, at 60 (stating that IVF insurance coverage is “a rarity in the United States, where 85 percent of insured Americans have policies that will not cover that treatment”).
opportunity to be altruistic. The UAGA lists this concern among the reasons that it prohibits payment for posthumous organ donations for transplant purposes.\textsuperscript{61}

The former concern seems implausible on its face in the stem cell research context. If some researchers offer compensation to donors of research tissues, this would not in any way preclude altruistic donation. Any donor motivated entirely by a desire to help the ill or promote scientific progress who wishes not to be tainted by compensation would be perfectly free to turn down payment. Of course, some, and perhaps many, people who would have been willing to provide uncompensated donations will accept payment if it is offered to them. If so, however, this suggests that those individuals find compensation more attractive than the warm glow of altruism, not that the market has infringed the freedom of those who wish the opportunity to give altruistically.

The latter concern raises a serious empirical question: would the availability of compensation convince more potential altruists not to donate than it would persuade non-altruists to donate? To understand the theoretical problem, consider the following hypothetical example. Assume that (1) a research project requires 100 women to donate ova; (2) in a world in which payment for ova donation were prohibited, 100 altruists would donate, satisfying the project’s needs; (3) women are routinely paid $5000 to donate ova for other research projects. Because of the availability of payment, the 100 would-be altruists might perceive ova donation as an inherently commercial activity, in which they have no interest in participating, rather than as a charitable or humanitarian one that they find enticing, and consequently refuse to donate. Put slightly differently, commercialization might reduce the psychic benefit of volunteerism, thus reducing the desirability of altruism and reducing the amount of it. (Or, viewed from the opposite perspective, a no-compensation rule might encourage altruism that otherwise would not exist.) Of course, for this to imperil the research project in question, there would have to be fewer non-altruists induced by the possibility of payment than altruists turned off by it.

There is no research that I know of that definitively demonstrates the empirical ratio between what might be called “offended altruists” and “non-altruistic sellers” in any given particular context. However, two studies in the context of blood donation suggest that compensation is likely to attract more research participants than it repels. A survey of blood donors in the U.S., where cash payments for blood have been virtually non-existent for more than three decades,\textsuperscript{62} found that the number of donors who said they would be encouraged to donate in the future by various incentives minus the number who would be discouraged by those incentives was positive—and in most cases quite substantially so—for every race, every educational level, both genders, and every age group, with the exception of people over age 55.\textsuperscript{63} In a survey of blood donors in New Zealand, 76 percent said that they would continue to give blood for free if other donors were paid, while only seven percent said that they would not.\textsuperscript{64}

\textsuperscript{61} The comment to \textit{UNIF. ANATOMICAL GIFT ACT} § 10 (1987) provides as follows: Altruism and a desire to benefit other members of the community are important moral reasons which motivate many to donate. Any perception on the part of the public that transplantation unfairly benefits those outside the community, those who are wealthy enough to afford transplantation, or that it is undertaken primarily with an eye toward profit rather than therapy will severely imperil the moral foundations, and thus the efficacy of the system.


\textsuperscript{63} Ana M. Sanchez et al., \textit{The Potential Impact of Incentives on Future Blood Donation Behavior}, 41 TRANSFUSION 172, 175 tbl.3 (2001).

\textsuperscript{64} Philippa Howden-Chapman et al., \textit{Blood Money: Blood Donors’ Attitudes to Changes in the New Zealand Blood Transfusion Service}, 312 BRITISH MED. J. 1131, tbl.1 (1996)
As donation becomes more inconvenient, painful, or risky, the number of potential altruists is likely to decline, rendering any crowding out of offended altruists by the existence of a market less significant. Many altruists might be willing to donate sperm for stem cell research without monetary inducement, finding the belief that one has helped the cause of science reward enough. It seems plausible, although far from certain, that a significant number of these men might be dissuaded from donating if researchers were to pay for sperm. In this case, donating sperm might appear indistinguishable from making a cash donation equal to the market price of sperm.

On the other hand, there are likely to be far fewer altruistic egg donors. The procedure is painful, is accompanied by the risk of bleeding and infection, and carries a small but non-trivial risk of substantial medical complications, including hospitalization and, in extreme cases, infertility. So payment is likely to be necessary if the needs of stem cell researchers are to be met. A relevant fact is that countries that prohibit the compensation of egg donors for IVF purposes face donor shortages that do not exist in the United States, and black markets prosper. In the United Kingdom, where cash payments for egg donations (beyond a small amount for expenses) are prohibited, demand for egg donations exceeded the supply of altruistic donors in 2005. Certainly some women will choose to donate eggs solely for the progress of science and the benefit of humanity, just as some choose to donate ova for IVF solely for the privilege of helping an infertile couple achieve their dream of having a child. But the number is likely to be limited.

**D. Increasing the Cost of Research**

A final argument against permitting compensation for research tissue is that doing so will increase the cost of conducting research and, consequently, reduce the amount of research and the number of medical advances. This concern is rarely articulated by scientists or bioethicists, but has been raised by legal analysts in several different forms. Two versions of the claim—that permitting compensation will increase uncertainty over ownership of tissues and increase transaction costs—have little logic to support them in the context of stem cell research. A third version—that direct costs of conducting research will increase—is likely to be true, but does not provide a compelling basis for no-compensation rules.

In its landmark decision in *Moore v. Regents of the University of California*, the California Supreme Court addressed John Moore’s claim that he was entitled to compensation from his physician and the University of California when leftover tissue from his splenectomy was used for commercial research purposes. In ruling for the defendants on this claim, the court raised the concern that if it validated Moore’s claim, biotechnology research would be hampered by “[u]ncertainty about how courts will resolve [future] disputes between specimen sources and specimen users.”

This concern seems misplaced, at least for prospective tissue donations. Any potential uncertainty could be resolved by researchers and donors clearly specifying the terms of their

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65. See Baum, supra note 34, at 139.
68. 793 P.2d 479 (Cal. 1990).
69. *Id.* at 495 n.40 (second alteration added) (quoting OFFICE OF TECH. ASSESSMENT, NEW DEVELOPMENT IN BIOTECHNOLOGY: OWNERSHIP OF HUMAN TISSUES AND CELLS (1987)).
transaction and the future compensation, if any, due to the donor. If potential downstream users of tissues, such as biotechnology companies that purchase licenses to exploit patented stem cell inventions, find the existence of future obligations to donors (such as royalties based on commercial success) too constraining, researchers would most likely insist that any compensation be fixed and paid at the time the tissue is donated and that donors disclaim any interest in future inventions or developments.

A related concern, that increased costs of negotiating tissue donations will inhibit medical research, is also a red herring because the alternative to tissue sales is not the unimpeded right of researchers to claim any tissue that might advance their research. The informed consent requirement ensures that researchers must communicate in a substantive way with potential donors prior to using their tissues. In practice, any negotiations over compensation probably would be conducted as part of this interaction. Documenting the terms of a commercial arrangement conceivably could entail some marginal transaction costs, but these should be minimal.

A third concern, that the permissibility of compensation would increase the direct cost of research, requires a more detailed evaluation. If the willingness (or lack thereof) of potential tissue donors to make uncompensated donations is static, allowing scientists the freedom to compensate donors would not increase the cost of any research project that would be conducted under a no-compensation regime. When tissue donations would involve little pain or risk and, when a wide range of donors would be satisfactory—for example, generic skin cells—researchers likely would be able to collect as much raw material as is necessary for their purposes without offering compensation. There are probably enough altruists to satisfy all research needs, in which case the market-clearing price would be $0. For tissues that are difficult or risky to collect (such as human eggs), or for unique tissues (such as those from donors with unusual diseases or genetic mutations), the market-clearing price for the necessary quantity of tissue might be considerably greater than $0. If so, the cost of research would be higher if compensation were allowed than if it were not, but this result cannot be counted as a strike against a system that permits compensation. Under a no-compensation regime, scientists would have no choice but to abandon the research; if compensation were permitted, they would have the option of pursuing the research if they (or their funding sources) were to believe that the potential benefits justified the costs.

Consider the following simple example: Assume that to develop a new treatment for disease X, researchers predict that they will need 1000 human egg donors in order to create embryonic stem cell lines through the process of therapeutic cloning. Assume also that there are 100 altruists willing to donate their ova to the research without compensation, but the remaining 900 donors can only be recruited for the painful and somewhat risky procedure if $5000 is offered as an inducement. When egg sales are permitted, the researchers have three options: (1)

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71. Informed consent documents that specify rights and responsibilities of subjects and researchers have the legal force of contract. See Dahl v. HEM Pharms. Corp., 7 F.3d 1399, 1405 (9th Cir. 1993) (finding that informed consent documents between researchers and subjects are contracts); Grimes v. Kennedy Krieger Inst., Inc., 782 A.2d 807, 843–44 (Md. 2001) (same).

72. See, e.g., Gitter, supra note 70, at 279; Dillon, supra note 70, at 638–39.

73. For a description of both the risks and the pain involved with retrieving ova from a woman’s ovaries, see Ellen A. Waldman, Disputing Over Embryos: Of Contracts and Consents, 32 ARIZ. ST. L.J. 897, 903–04 (2000).
they can collect eggs from the altruists for free and pay the non-altruists $5000 each, (2) they can pay all 1000 donors $5000 each if they believe equity requires compensation of the altruists if others are compensated, (3) they can attempt to make do with 100 donors, or (4) they can cancel the project. If egg sales are prohibited, however, the researchers have only options (3) and (4). Thus, having the option of purchasing the gametes strictly dominates not having the option.

The problem with this analysis is that the population of altruists is probably dynamic rather than static, and its number is likely dependent on whether compensation is permissible. As the crowding out concern suggests, if some tissue donations are compensated, the perception amongst potential donors of the social meaning of donation will change, and some potential altruists might exit the donor pool, making them unavailable even to researchers who choose not to offer compensation. Altruists might also exit the donor pool if and when the availability of payment eliminates tissue shortages and leads them to believe that their altruism is unnecessary for scientific progress. A different but related effect is that some portion of potential altruistic donors would remain in the pool but demand compensation. These subjects would receive sufficient utility from the warm glow of altruism to make uncompensated donations if no other type were possible, but would hold out for monetary compensation if they knew it was potentially available. For this population, the possibility of compensation will not cause a shift in the perceived social meaning of donation, but it will cause a shift in the perceived social meaning of accepting a low price (i.e., $0): Whereas accepting $0 when scientists may offer no more means being a good citizen, accepting $0 when more could be paid means being a chump.

For these reasons, it is probably the case that the research that could be conducted under a no-compensation regime would be more expensive to conduct if compensation were permissible. The question is whether this effect is sufficient to justify a no-compensation rule for research tissues.

The fundamental problem with the increasing cost of research argument is that it offers no basis for distinguishing between tissue donors and other individuals who provide socially useful goods or services for biomedical research or in any other context. Exactly the same argument could be made for prohibiting the compensation of stem cell researchers, to use just one of a near-infinite number of possible examples. If such compensation were prohibited, we would have many fewer researchers, of course, but some scientists would work for free, and a few individuals who are not now scientists might join the profession because they would find scientific research a more attractive pursuit if it were divorced from the realm of commerce. Not very much science would be done, but what science survived would be done for a lower monetary cost than society must pay for it now. We permit the compensation of scientists because of our implicit determination that it is worth the extra cost of having to pay the few scientists who might work for free in order to ensure that more science (hopefully something close to the socially optimal amount) will be conducted.

Proponents of a no-compensation rule who argue on the ground that compensation would increase the direct costs of research should bear the burden of demonstrating why tissue donation ought to be treated differently than the vast array of goods and services for which our society permits compensation. Proponents may not satisfy this requirement, of course, by claiming that the provision of human tissues should not be treated like other goods or services because its source is the human body, or by claiming that financial rewards might cause some people to feel undue pressure to donate. These contentions would effectively shift the argument from increasing costs of research to anti-commodification or involuntariness; arguments that have already been considered and found wanting.
III. ALTERNATIVES TO A SALES BAN

The arguments made in favor of a no-compensation rule are theoretically flawed (the voluntariness/coercion and inhibition of research claims), based on a particular and narrow view of the connection between tissues and personhood (the anti-commodification claim), empirically unlikely (the crowding out claim), or correct but insufficient to justify interference with market processes (the increasing cost of research claim). On the other side of the scale is the obvious social benefit of ensuring that the progress of stem cell research is not impeded by an insufficient quantity or quality of human tissues. This enormous benefit is more than sufficient to justify a rule permitting researchers to compensate tissue donors in whatever way they see fit, including cash payments.

There is no denying, however, that the opposition to compensation on the part of the medical research community and many policy makers remains strong. In light of this, this Part offers two second-best alternatives to permitting unregulated cash compensation of tissue donors designed to allay some of the concerns of opponents, particularly those who find the anti-commodification argument convincing.

A. Framing Compensation with Non-Market Terminology

One approach is to attend to the framing of cash compensation rather than prohibiting it. This concept might explain why many state laws that prohibit payment of “valuable consideration” for human tissue (and the federal NOTA, which prohibits payment for organs in the context of transplants) permit compensation of donors for costs incurred, time spent, and lost wages. It also might help explain the ASRM’s position that it is morally permissible to pay oocyte donors up to $5000, but not more, in recognition of the estimated 56 hours of time that the organization estimates the donation process requires, the position of a New York State Task Force on Life and the Law that “[g]ametes and embryos should not be sold, but gamete and embryo donors should be offered compensation for the time and inconvenience associated with donation,” and the standard claims of egg donor agencies that this is precisely the basis for compensation received by their donors.

In one sense, these distinctions are at best merely semantic and at worst dishonest. Whether scientists say they pay egg donors for their time and inconvenience or for their eggs does not affect any tangible aspect of the exchange. If payment amounts exceed the out-of-pocket costs of donating, the donors are reaping material gains in exchange for providing tissues, and a market price is implicitly set. But whether society is harmed by the psychological effects of commodification certainly depends, at least in part, on the social framing of the exchange.

B. In-Kind Compensation

Another approach would be for researchers to provide in-kind compensation to donor groups. Although most supporters of no-compensation rules oppose in-kind compensation just as strongly as they do cash compensation, certain types of in-kind compensation can carry less of a connotation that tissue donation monetizes the value of human beings.

74. See supra note 31.
75. ASRM, Financial Incentives, supra note 33, at 240, 243.
77. See, e.g., David B. Resnik, Regulating the Market for Human Eggs, 15 BIOETHICS 1, 5 (2001).
In the United Kingdom, the law prohibits cash payments to women who donate eggs for IVF, but clinics may provide IVF treatments to egg donors at a reduced price as compensation.\(^{78}\) Of course, IVF treatment has a market price, so it is not difficult to calculate the implicit monetary price that any particular woman receives for providing eggs. But payment in infertility treatment rather than in cash probably weakens the public perception that bodily tissues are being traded in the market as if they were widgets.

The way blood commonly is procured in the United States exemplifies this point. About half of blood donors in this country receive some kind of compensation for their participation in blood drives.\(^{79}\) In some cases, such as the gift of a t-shirt, the compensation is *de minimis* and might not encourage many people who otherwise would not donate blood to do so. In other cases, the compensation is more significant, and undoubtedly provides a participation incentive. Many companies offer their employees time off work to give blood, a clear inducement to any workers who mind giving blood less than they mind working.\(^{80}\) In other cases, donors are promised preferential treatment if they ever need a blood transfusion in return for their contributions.\(^{81}\) In these cases, blood donation can be understood as a barter transaction. Yet, because cash compensation is rare, most Americans perceive the blood donation regime to be entirely altruistic and outside of the market.

In 2001, a group representing patients with pseudo-xanthoma elasticum (“PXE”) negotiated with researchers for a share of future patent rights and licensing control in return for soliciting tissue donations from families affected with the disease (along with other research support).\(^{82}\) The group pledges to use these rights to ensure screening tests and treatments are available to all who need them at an affordable cost. This type of arrangement also might strike many as a compensation method more compatible with the nature of personhood than agreeing to pay cash to individual tissue donors.

**CONCLUSION: RESEARCH TISSUES VS. TRANSPLANT ORGANS**

This Article’s critique of proposed no-compensation rules for research tissues has obvious implications for transplant tissues and organs as well. The no-compensation rules governing organ transplants, enshrined in law by NOTA and the UAGA, are commonly defended with the same arguments reviewed and critiqued here. These arguments suffer many of the same shortcomings in the transplant context as they do in the research tissue context and the costs of such rules are even more clear in the former context: more than 90,000 Americans are currently on wait lists for transplant organs, and approximately 6500 die every year awaiting a transplant because demand so far outstrips supply. Only a minority of Americans agree to be

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\(^{78}\) See, e.g., Braid, *supra* note 67.

\(^{79}\) Ana M. Sanchez et al., *The Potential Impact of Incentives on Future Blood Donation Behavior*, 41 TRANSFUSION 172, 174 tbl.2 (2001) (reporting that 56% of survey participants received an incentive for their last blood donation).

\(^{80}\) Id.; see also Ronald G. Strauss, *Blood Donations, Safety, and Incentives*, 41 TRANSFUSION 165, 165 (2001) (identifying the U.S. Postal Service and Boeing).

\(^{81}\) Sanchez et al., *supra* note 79, at 174 tbl.2; see also DEP’T OF HEALTH & HUM. SERVS., FOOD & DRUG ADMIN. & CTR. FOR BIOLOGICS EVALUATION & RESEARCH, RECRUITING BLOOD DONORS—SUCCESSFUL PRACTICES (July 7, 2000), available at [http://www.fda.gov/cber/minutes/recbld0707p2.pdf](http://www.fda.gov/cber/minutes/recbld0707p2.pdf) (“There were, and still are, some blood-credit programs available where, if you donate blood, there are certain ‘insurance-type’ programs that people in your family . . . will be able to get blood at no cost.”).

even cadaveric organ donors, even though cadaveric donations require no effort on the donor’s part and cause neither inconvenience nor pain. There is clearly a strong argument for legal reform that permits payment or in-kind compensation for cadaveric transplantation organs or even live donations.  

That said, the argument for permitting compensation is even stronger in the research context than it is in the transplant context. Transplant organs are a private good in a way that research tissues are not. If all prohibitions on buying and selling organs for transplant were lifted, significant changes in the distribution of those organs would result, with those willing and able to pay the most jumping to the front of the queue rather than those who are the sickest or have been on the waiting list for the longest time. There are arguments for this result, and, to be sure, there are also ways the law could be structured to avoid or minimize these problems. However, there are serious issues of equity across economic classes that generally cut against eliminating no-compensation rules for transplant organs.

These concerns are not implicated in the research context. Of course, “richer” researchers—i.e., those with more funding—might have better access to tissues than others. This does not raise serious equity concerns, however, because the distribution of research funds is correlated, at least broadly speaking, with the worthiness of the research. Government research funding is allocated based on the perceived social importance of the research topic and the quality of the researchers and their grant proposals. Commercial funding is allocated on the basis of what capital markets believe has the greatest chance of leading to the creation of commercially useful tests and treatments.

The distinctions between the research and transplant contexts are important to emphasize, because they indicate that the important principles of consistency and coherence in public policy do not necessarily require that the prohibitions on the sale of transplant tissues be lifted if tissue sales are permitted for research purposes. Markets for transplant tissues might well be desirable, but that topic requires a different analysis.

83. See, e.g., Sheldon F. Kurtz & Michael J. Saks, The Transplant Paradox: Overwhelming Public Support for Organ Donation vs. Under-Supply or Organs: The Iowa Organ Procurement Study, 21 J. CORP. L. 767, 783 (reporting that 43% of Iowa supporters of organ donation had the appropriate mark on their driver’s licenses); Med. News Today, DMV and Donate Life California Organ & Tissue Donor Registry Team Up, Challenge Californians to Raise Percentage of Life-Saving Donors, June 29, 2006, http://www.medicalnewstoday.com/medicalnews.php?newsid=46134 (referencing the DMV/Donate Life California partnership and noting that, as of 2004, only 295,000 of California’s 23 million licensed drivers had registered as donors online); Veatch, supra note 46, at 25 (citing Gallup Poll results that found a minority of respondents had taken steps to become voluntary cadaveric donors).

"No Compensation" or "Pro Compensation":
*Moore v. Regents and Default Rules for Human Tissue Donations*

Russell Korobkin*

Thirty-two year-old John Moore was working on the Trans-Alaska Pipeline in 1976 when his gums began to bleed and his body became covered with bruises. He was diagnosed with hairy cell leukemia (HCL), a rare blood cancer, in which malignant blood cells that appear hairy under a microscope flood the spleen. The average spleen weighs about one half of a pound; Moore’s weighed at least 14 pounds, and considerably more than that according to some sources. Given six months to live, Moore sought out treatment at UCLA from hematologist Dr. David Golde. Under Golde's supervision, UCLA performed a splenectomy that saved Moore’s life: the patient would go on to live another 25 years.1

For the next seven years, at Golde’s instruction, Moore traveled from his home in Seattle to UCLA from time to time so the doctor could obtain samples of the patient’s blood, sperm, and semen. Flying to Los Angeles for lab work had a therapeutic purpose, as it allowed Golde to physically examine Moore in addition to drawing fluids. But it was clear that Golde’s interest in drawing and maintaining the fluids himself went beyond concern for Moore’s health. When a healthy Moore complained about the expense of the travel and asked if he could have a physician in Seattle collect the tissue samples and send the results to Golde, the doctor started paying Moore’s travel expenses from his research funds, including lodging at a posh Beverly Hills hotel.

By the early 1980s Golde discovered that the unusual blood cells in Moore's spleen could be used to produce potentially valuable proteins. In 1981, Golde and the University agreed to a three-year deal (later extended to four) with a Massachusetts biotech firm called Genetics Institute, under which the Institute would have exclusive use of the "Mo" cell line, would pay the University $110,000 a year to fund Golde's research, and would give Golde 75,000 shares of the private company's stock in return for the doctor's consulting services. When Genetics Institute held an IPO in 1986, the stock became worth nearly $2,250,000.2 In 1983 Golde sought patent protection for the Mo cell line, and a patent was granted the following year.

Just after Golde filed the patent application, he asked Moore to sign a consent form granting the University of California “all rights…in any cell line or any other potential product which might be developed from the blood and/or bone marrow obtained from me.” Moore refused, and then avoided several increasingly desperate attempts by Golde to obtain his signature.3

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1 The precise facts underlying the Moore case were never fully developed in the judicial record, because the litigation concerned whether the lower court properly granted the defendant's Motion to Dismiss. The factual description here is cobbled together from a number of sources, which often disagree as to some of the specifics.


3 The precise facts underlying the Moore case were never fully developed in the judicial record, because the litigation concerned whether the lower court properly granted the defendant's Motion to Dismiss. The factual description here is cobbled together from a number of sources, which often disagree as to some of the specifics.
Ultimately, Moore sued Golde and the University. The California Superior Court dismissed Moore's claim on all counts, and that decision was appealed. The California Supreme Court issued a split decision of sorts. It ruled that Golde had an obligation under informed consent doctrine to reveal his financial interests to Moore, thus permitting a trial to go forward on whether Golde breached this duty. (This claim was then settled out of court). But the court held that the facts alleged by Moore, even if true, could not support his claim for the conversion of the spleen. This portion of the Moore decision is quite significant to understanding the law relating to transactions in human tissue, but not for the reasons usually assumed.

The Moore court's refusal to recognize the theft of John Moore's spleen is widely misinterpreted as standing for the proposition that the law recognizes no property rights in human tissues or organs, or at least no rights in disembodied tissues. In fact, the true importance of Moore is that it establishes a "no compensation" default rule for transactions in human tissues for research use: courts will assume such transactions are altruistic, unless the parties specify otherwise. The first half of this article -- Parts I and II -- defends this positive claim that the Moore decision concerns a default rule of contract law rather than a rule of property law. The second half of the article -- Part III -- uses default rule theory to construct a normative analysis of the Moore rule. It concludes that the optimal default rule for transactions concerning research tissues is "no compensation" rather than "pro compensation," and that, therefore, Moore was decided properly and ought to be embraced by other courts and by legislatures.

I. Ownership and Transferability of Research Tissues

A. Property Rights

The conventional wisdom that Moore rejects property rights in bodily tissues is far broader than what the court's reasoning can support, and it is clearly inconsistent with a wide-range of accepted legal principles.

Contemporary legal scholars recognize that whether an item is "property" is not a black and white inquiry. Rather, property comes in many shades of gray. The usual metaphor for property is that it consists of a bundle of rights or sticks. A full bundle of property rights includes the ability to use the item as one sees fit, to exclude others, to transfer freely or dispose of the item for any reason. But in any society, property rights are rarely absolute. The law regulates our enjoyment of much of what we commonly think of as property. It often limits our dominion over it or, to follow the popular metaphor, deprives us of some of the sticks in the bundle. For example, if you own a parcel of land in an urban area, tort law and zoning restrictions will prevent you from building a dynamite factory on it. Such regulation does not mean that you do not own the land or that you lack property rights in it. It means only that there are some limitations on your use rights, and, thus, you lack all of the sticks that might possibly be found in the bundle.

4 Moore, 51 Cal. 3d at 136-142.

5 See, e.g., Radhika Rao, Property, Privacy, and the Human Body, 80 B.U. L. Rev. 359, 373 (1999) (citing Moore for the proposition that "spleen cells are not considered to be the property of the person from whose body they were withdrawn"); Eric B. Seeney, Note: Moore 10 years Later – Still Trying to Fill the Gap: Creating a Personal Property Right in Genetic Material, 32 N. Eng. L. Rev. 1131, 1165 (1998) (California court would not “grant[] Moore property rights in genetic materials”).

With this understanding of property, even a cursory glance at a range of statutes and judicial decisions reveals that individuals possess substantial property rights in their own tissues and that it is even quite possible to enjoy property rights in tissues of others that have been separated from the body. As to the latter point, Justice Broussard noted in dissent in Moore that if John Moore’s spleen had been stolen from his physician's laboratory, there would have been little doubt that the intruder would be liable for conversion. More recently, one federal court found that a researcher who destroyed a rival’s cell line was liable for conversion. Clearly, then, the fact that a tangible item is a tissue that was extracted from the human body does not render it incapable of the status of private property in the same way that a chair, a silk scarf, or a Van Gogh painting can be private property.

As to the former point, we need to look no further than the common law doctrine of informed consent and the federal regulations of scientific research, known as "the common rule," for evidence that demonstrates a clear right to exclude others from using our tissue. Under these legal regimes, neither physicians nor researchers may excise bodily tissues without the consent of the patient/subject.

Similarly, the law provides us with the complete right to our tissues against the claims of others who need them, even if their need is great and ours is small. This principle is spelled out quite nicely in the case of McFall v. Shimp. McFall faced death without a bone marrow transplant, and the only potential donor with the right tissue match to minimize the likelihood of rejection was his cousin Shimp. When Shimp declined to make the needed donation, which is briefly painful but poses virtually no long term medical risks, McFall asked a court to order Shimp to provide the marrow. The court ruled for Shimp, citing his absolute right to exclude others from the use of his bodily tissues, no matter the circumstances.

The Uniform Anatomical Gift Act (UAGA), adopted substantially in all 50 states, provides individuals with the right to donate organs after death for transplants or research. It thereby recognizes an important property right to bequeath tissues. Similarly, several judicial decisions have upheld the ability of decedents to bequeath their sperm to non-family members against challenges by unhappy relatives. Federal law, in the form of the National Organ Transplant Act (NOTA), provides the right to donate for transplant tissues that are renewable or not necessary for survival even while we are alive. Several judicial opinions have upheld the right of gamete donors to contract for the future disposition of embryos created for in vitro fertilization but never actually used for that purpose. The clear right to make inter vivos, testamentary, and contractual transfers of tissues and gametes also indicates the existence of substantial private property rights in these items.

B. Alienability

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7 Moore, 793 P.2d at 501 (Broussard, J., dissenting).
9 For a full discussion, see Chapter 7.
14 See Davis v. Davis, 842 S.W.2d 588 (1992).
NOTA specifically prohibits -- on threat of fine or imprisonment -- the buying or selling of human organs, which it defines to include the kidneys, liver, heart, lungs, pancreas, bone marrow, cornea, eye, bone, and skin or any subpart thereof, and any other human organ (or any subpart thereof, including that derived from a fetus).\footnote{42 U.S.C. § 274e(c)(1) (2005).} NOTA’s reach is limited, however, to organs “for use in human transplantation.”\footnote{42 U.S.C. § 274e(a) (2005).} This language indicates that researchers may buy and donors may sell covered organs for research purposes without running afoul of the statute.\footnote{Accord Radhika Rao, \textit{Property, Privacy, and the Human Body}, 80 B.U. L. REV. 359, 376 (1999). It is less clear whether, if regenerative medicine achieves its full potential and stem cells are used directly as therapeutic agent, NOTA would prohibit the sale of tissues for the purpose of creating therapeutic stem cells.}

The UAGA provides that individuals may donate their entire body or “body parts” for transplantation, therapy, research, or education.\footnote{UNIF. ANATOMICAL GIFT ACT § 6(a) (1987).} The Act prohibits the purchase or sale of body parts for use in transplantation or therapy but notably omits research purposes from this prohibition.\footnote{UNIF. ANATOMICAL GIFT ACT § 10(a) (1987).} In addition, the sale prohibition applies only “if removal of the part is to occur after the death of the decedent,” and so does not cover \textit{inter vivos} transactions.\footnote{UNIF. ANATOMICAL GIFT ACT § 10(a) & cmt. (1987).} For both reasons, this statute also appears inapplicable to tissue transactions for the purpose of biomedical research.

There is only one federal statute that interferes with the right to buy or sell human tissues for research purposes, and its scope is limited. As part of the NIH Revitalization Act of 1993 that provided federal support for fetal tissue research, Congress criminalized any purchase or sale of human fetal tissue procured from induced or spontaneous abortions.\footnote{42 U.S.C. § 289g-2(a).}

Many states have enacted legislation prohibiting the sale of organs and/or tissues in particular circumstances. Most of these, like NOTA, are specifically limited to organs and tissues for transplant. A minority of states -- at least nine -- have broader statutes that appear to prohibit tissue sales for research purposes as well.\footnote{FLA. STAT. ANN. § 873.01 (West 2005); GA. CODE ANN. § 16-12-160 (2005); 720 ILL. COMP. STAT. § 5/12-20 (2005); MD. CODE ANN., HEALTH-GEN. I § 5-408 (2005); MASS. GEN. LAWS ANN. ch. 111L, § 8 (West 2005); MICH. COMP. LAWS. ANN. § 333.10204 (West 2005); MINN. STAT. ANN. § 145.422 (West 2005); TEX. PENAL CODE ANN. § 48.02 (Vernon 2005); VA. CODE ANN. § 32.1-289.1 (Michie 2005).} A few of these exempt from coverage renewable tissues, such as blood and sperm.\footnote{VA. CODE ANN. § 32.1-289.2(a).} At least one state (Virginia), however, has enacted a sales ban broad enough to cover scientific research purposes that groups ova, unscientifically, with renewable tissues and excludes them from the ban.\footnote{See, e.g., CAL. PENAL CODE § 367f (West 2005) (defining “human organ” to exclude plasma and sperm); 720 ILL. COMP. STAT. § 5/12-20 (2005) (permitting the purchase or sale of blood and “other self-replicating body fluids”); MICH. COMP. LAWS. ANN. § 333.10204 (West 2005) (same).} (Ova, unlike blood and sperm, are strictly speaking not renewable, although the number each woman is born with is so substantial there is no realistic possibility of running out.\footnote{See, e.g., EMILY JACKSON, \textit{Regulating Reproduction: Law, Technology and Autonomy} 165-66 (2001). Women are born with so many ova, however, relative to the number of years of menstruation, that there is no realistic risk of running out, no} Louisiana, in contrast, does not generally ban tissue sales for research purposes generally\footnote{See, e.g., UNIF. ANATOMICAL GIFT ACT § 10(a) (1987).} but bans the sale of ova for all purposes.\footnote{VA. CODE ANN. § 32.1-289.1 (excepting “hair, ova, blood, and other self-replicating body fluids”).}
More states prohibit the sale of human embryos for research purposes than prohibit the sale of other tissues for research purposes. But, at approximately 13,\textsuperscript{28} the number of states with prohibitions is still quite small. Although some foreign nations prohibit cash payments to embryo donors, there is no federal law in the U.S. that does so.

To summarize briefly, the full range of human tissues – with the exception of fetal tissue – can be bought and sold freely for the purpose of biomedical research in approximately 75 percent of U.S. jurisdictions. Alienability is restricted, to varying degrees, in the remaining jurisdictions.

II. Discerning the Default Rules

A. The Need for a Default Rule

If individuals enjoy property rights in their bodily tissues, and if the law (in most circumstances) permits individuals to sell their tissues for biomedical research purposes, a range of different transactions between donors and scientists are possible. Notwithstanding the legal permissibility of compensation, many individuals might donate their tissues without any financial inducement. The lack of a legal prohibition against sales certainly does not mandate the payment of compensation and, for any particular research need, there might be a sufficient number of altruistic donors. This is especially likely when researchers require non-unique tissues -- that is, when scientific requirements do not limit donors with a specific and unusual genetic makeup -- and the tissues can be procured with a minimally invasive process.

When researchers do choose to compensate donors, the compensation could take a variety of forms. The most obvious possibility is that researchers could make donors a fixed cash payment based on the desirability to researchers of the particular tissues. In a recent article, *The New York Times Magazine*\textsuperscript{29} profiled a man named Ted Slavin, a hemophiliac who developed unusually high concentrations of hepatitis B antibodies as a result of being exposed to the virus through repeated tainted blood transfusions. Slavin’s antibodies were uniquely valuable for the creation of a hepatitis B vaccine, so he started a business selling his blood serum – according the *Times*, he charged up to $10 per milliliter. If the usefulness of individual’s tissues are less clear to researchers, they might choose to compensate donors with a percentage of future profits from licensing income contingent on the tissue leading to a commercially viable product. Another possible approach would be to offer various forms of in-kind compensation, such as reduced-price IVF treatment for egg or embryo donors or free medical treatments for donors whose tissues are particular valuable because they have an unusual genetic disease that researchers need samples to study.

\textsuperscript{26} Louisiana's ban on organ sales is limited to sales for transplantation purposes. See LA. REV. STAT. ANN. § 14:101.1 (West 2005).

\textsuperscript{27} See LA. REV. STAT. ANN. § 9:122 (West 2005) (prohibiting sale of human ova).

\textsuperscript{28} See, e.g., CAL. HEALTH & SAFETY CODE § 125320 (West 2005); 2005 Conn. Acts 149 (Reg. Sess.); FLA. STAT. ANN. § 873.05 (West 2005); 720 ILL. COMP. STAT. 510/6 (2005); IND. CODE ANN. § 35-46-5-3 (Michie 2005); LA. REV. STAT. ANN. § 9:122 (West 2005); MASS. GEN. LAWS ANN. ch. 111L, § 8 (West 2005); MICH. COMP. LAWS ANN. § 333.2690 (West 2005); MINN. STAT. ANN. § 145.422 (West 2005); N.J. STAT. ANN. § 26:2Z-2 (West 2005); N.D. CENT. CODE § 14-02.2-02 (2005); R.I. GEN. LAWS § 11-54-1 (2005); S.D. CODIFIED LAWS § 34-14-17 (Michie 2005).

\textsuperscript{29} Rebecca Skloot, *Taking the Least of You*, The NEW YORK TIMES MAGAZINE, April 16, 2006.
In this circumstance, the law has an important role to play beyond resolving the blunt question of whether the parties may agree to compensation. It also must determine whether and what compensation will be due when the parties fail to negotiate at all over compensation. Such rules of law usually are called "default rules."

In addition to setting the default rule, the law must determine what amount of evidence will constitute an agreement by the parties to set their own term, or "contract around" the default. A "strong" default rule requires a clear contractual statement by the parties of a different allocation of resources before the rule is overridden. A "weak" default rule, in contrast, is one which courts will determine to have been overridden by the parties in the event of more ambiguous or implicit evidence that the parties wished a different resource allocation.

**B. Understanding Moore as Creating a "No Compensation" Default**

Unsurprisingly, when John Moore left UCLA Medical Center after his splenectomy, he didn’t ask for his spleen, and no one offered it to him. Physical possession of the tissue shifted from Moore to his physicians, yet not a single word was uttered about the terms of that transaction.

The significance of the Moore court's decision that Dr. Golde and UCLA did not steal Moore’s spleen is that it established a default rule that tissue donations are made altruistically and with no expectation of compensation. Implicitly, the court ruled that Moore either abandoned his organ or made a gift of it to his physician. There was no evidence that Moore formed a specific intention to do either, of course. But this was the legal significance that the court gave to the fact that he did not demand compensation prior to its removal. "Abandonment" was the legal conclusion the Court assigned where there was no evidence at all of actual intent one way or another.

When a donor allows physicians or researchers to take tissues without explicitly establishing terms of the transaction, Moore instructs courts to treat the absence of an explicit contract for compensation as if the donor abandoned the tissue or made a gift of it to the researchers. Under this rule, the research establishment -- whether that ultimately would mean the scientists, their academic institutions, funding sources, commercial biotech firms, or some combination of the aforementioned -- would be entitled to whatever commercial fruits they create by mixing the tissue with their intellect and labor.

This reading of Moore is supported by the California appellate court decision in Hecht v. Superior Court, which upheld the right of the decedent, Kane, to devise sperm, held in a sperm bank, to his girlfriend. The court determined that Kane had “an interest in the nature of ownership” in his sperm. It distinguished Moore on the footing that Kane had an explicit contract with the depository recording both his expectation of control over the sperm and his intent to transfer it to his girlfriend at death. Hence, Kane’s actions sufficiently rebutted any presumption of a gift to the bank or an abandonment of the tissue in a way that Moore’s actions did not.

**C. How Strong is the Default Rule?**

In addition to determining the default presumptions of a transaction, the law also must establish the requirements that private parties must meet in order to opt for an alternative set of resources.
contract terms. Generally speaking, the more explicit the parties must be in order to avoid the legal effects of the default rule, the "stronger" the default is said to be. Because there was no relevant communication between the parties in Moore, the court's decision offers no insight into how strong the default rule of no compensation is.

In the 2003, case of Greenberg v. Miami Children’s Hospital Research Institute, Inc., a federal district court was presented with an opportunity to weigh in on this issue: specifically, how explicit must a donor’s intent be not to bestow a gift upon the researchers in order to overcome the presumption of altruism. Unfortunately, the Greenberg court missed the opportunity, issuing an internally inconsistent ruling that fails to provide donors or researchers much useful guidance. This is unfortunate because Greenberg is the only published judicial decision that presents a set of facts necessary for a court to pass judgment on the strength of the Moore default rule.

The Greenberg plaintiffs were parents of children afflicted with Canavan disease who donated tissues (as well as time and money) to a medical researcher who was trying to identify the gene mutation that causes that disease. The researcher wanted to create a diagnostic test and a cure, as well as to form a non-profit organization to promote such research. The plaintiffs alleged that their donations were made “with the understanding” that any discoveries would benefit “the population at large,” that any diagnostic tests developed would “be provided on an affordable and accessible basis,” and that the research findings “would remain in the public domain.” When the defendant’s patented the genetic sequence that causes Canavan disease and began charging licensing fees for the use of any Canavan disease diagnostic test, the plaintiffs brought suit under a variety of legal theories.

The court dismissed the plaintiffs’ claim for conversion of their tissue and genetic information. It did so not because the plaintiffs lacked property rights in these items, but because “the property right in blood and tissue samples . . . evaporates once the sample is voluntarily given to a third-party,” and there were no allegations that the defendants used any of the plaintiffs’ materials for an “expressly unauthorized act” or in violation of any conditions of use. This part of the Greenberg decision suggests that the court was constructing a particularly strong default presumption in favor of altruistic donation. In Moore, there were no conditions placed on the use of the plaintiff’s spleen. In Greenberg, there apparently were discussions about the purposes for which the plaintiffs’ tissues would be used but ultimately no clear agreement of terms emerged. There appears to have been only a vague, inchoate “understanding,” and the court appeared to rule that this was insufficient to overcome the presumption of altruistic donation.

Unfortunately for the sake of clarity, however, the court’s ruling on another of the Greenberg plaintiffs’ claims -- one for "unjust enrichment" -- implicitly contradicts its resolution of the conversion claim. The court listed as the elements of an unjust enrichment claim that the plaintiff conferred a benefit on the defendant, the defendant voluntarily accepted and retained the benefit, and “under the circumstances it would be inequitable for the defendant to retain the benefit without paying for it.” Then, concluding that the plaintiffs’ allegations “paint a picture of a

34 Greenberg, 264 F. Supp. 2d at 1067 (quoting plaintiffs’ complaint).
35 264 F. Supp. 2d at 1075.
36 264 F. Supp. 2d at 1072 (emphasis added).
continuing research collaboration,“ the court held that the plaintiffs had sufficiently pleaded a cause of action for unjust enrichment and denied the defendant’s motion to dismiss. This meant that the plaintiffs would be permitted to proceed to a jury trial on that issue.

The problem with these dual conclusions is that if the plaintiffs did, in fact, voluntarily transfer their property rights to the defendants without conditions, there would be nothing inequitable with the defendants retaining all the benefits without paying for them. The unjust enrichment claim is only viable if the plaintiffs’ donations were not completely altruistic, but rather made with the reasonable expectation of some consideration – presumably as a consequence of the vague “understanding” between the parties – if not an enforceable contract. The unjust enrichment portion of the decision suggests that the default presumption in favor of altruistic donation is relatively weak. Even somewhat vague discussions of a partnership could overcome that presumption and establish that the donor is entitled to compensation.

The internally inconsistent Greenberg ruling would lead a cautious lawyer to offer the following legal advice to his researcher clients: although researchers may negotiate for altruistic, uncompensated tissue donations, they should make certain that their consent documents clearly define or disclaim donor control over potential commercial activities and donor rights to present or future compensation. In the absence of unambiguous contractual terms with donors, researchers risk future litigation. They also run the risk that potential downstream investors will determine that the researchers’ property rights in the tissues are too uncertain to commercialize subsequent discoveries.

Researchers that follow this advice, however, risk running into a different legal obstacle. The “no waiver” provision in federal "common rule" bars researchers from including in informed consent forms “any exculpatory language through which the subject or the representative is made to waive or appear to waive any of the subject’s legal rights, or releases or appears to release the investigator, the sponsor, the institution or its agents from liability for negligence.” Based on this provision, the federal government's Office for Human Research Protections (OHRP) has said that it would be improper for researchers to insert a clause in informed consent documents stating that the subject will give up all claims to personal benefits from their tissue samples.

This guidance places researchers between a rock and a hard place: the OHRP tells researchers they may not ask subjects to make altruistic tissue donations, but Greenberg suggests that if it is not clear the donation is meant to be altruistic the researchers might face legal liability for unjust enrichment! The only alternative that appears to remain is for researchers to compensate tissue donors, but Moore makes clear that compensation is not only not required, it is not even the default expectation.

The problem here is that OHRP’s guidance is improper because it misinterprets the common rule's "no waiver" provision. By its terms, the “no waiver” provision applies to “exculpatory language” concerning "negligence." This suggests the clause is best read as prohibiting only waivers of potential tort claims for negligence arising from the physical interaction between researcher and subject. It does not prohibit the donor from agreeing to compensation terms for the tissue transaction, including "no compensation."

37 264 F. Supp. 2d at 1072-73.


III. Normative Analysis: Choosing the Best Default Rule

Current excitement about the therapeutic potential of biomedical products, especially stem cells, that is likely to be achieved only if large quantities of human tissues are available for experimentation, suggests that progress in medical research will become increasingly dependent on tissue donations. This, in turn, makes the question of whether the Moore default rule is optimal more important each year. To determine the optimal default rule, this Part maps conceptual principles of contractual default rule selection and then applies the principles to the particular context of tissue transactions. It concludes that the default rule implicitly created by Moore is optimal, but that it should be interpreted as a "weak" default.

A. Majoritarian Defaults

There are three principled bases for selecting a default rule from among two or more rules that contracting parties are privileged to choose between for their particular transactions. One basis is to choose what contract law scholars call a "majoritarian" default rule. Under a majoritarian default rule, the law allocates rights between the parties in the way that most parties would have done had they explicitly addressed the question. This approach has two benefits. First, the courts most often provide parties what they would have explicitly negotiated for, which makes them jointly better off than any other allocation of rights. Second, the majority of parties who would have negotiated for this allocation of rights need not enter into an explicit contract memorializing these terms, which saves them transaction costs.

In a simple world, selecting a majoritarian default rule concerning tissue compensation would require only a determination of whether a majority of researchers and donors, if they were to expressly discuss the question of compensation, would agree to a compensated donation or an uncompensated donation. In the real world, the question is more complicated, because parties who hypothetically would agree to compensated donations could agree to a variety of different compensation schemes -- i.e., a flat fee, a flat fee contingent on the usefulness of the tissue donated, a flat fee contingent on the commercial success of the research, a percentage of profits from commercial innovations, etc. -- and the amount of compensation under each scheme could be set at nearly infinite range of levels.

Because uncompensated donors all would receive the same amount of compensation (i.e., nothing), whereas there could be tremendous heterogeneity amongst compensated donors, the default rule that would mimic the express agreements of the greatest number of researchers and tissue donors would almost certainly be the "no compensation" default chosen by the Moore court. It is difficult to predict whether an actual majority of donation agreements that are silent on the issue of compensation would have called for no compensation if the researchers and donors had expressly discussed the issue. It might be the case that, even in a world where payment for tissues is not prohibited, a majority of tissue donations will be altruistic. Many tissues will have little unique financial value to researchers, and researchers will be able to find enough altruists who are willing to make uncompensated donations to satisfy the needs of science. Even when potential donors have a genetic mutation that makes their tissue particularly

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valuable, they will often have enough interest in helping researchers to develop treatments, cures, or diagnostic tests for their conditions that they would be willing to donate without any direct compensation.\footnote{Cf. Charlotte H. Harrison, \textit{Neither Moore nor the Market: Alternative Models for Compensating Contributors of Human Tissue}, 28 AM. J. L. & MED. 77, 92 (2002) (noting that donors often give tissue because they wish to promote research on a particular disease).}

On the other hand, the supply and demand equilibrium in tissue markets might result in the majority of donations being compensated. But even if this is the case, it is safe to predict that, at a minimum, a plurality of donation agreements that would result from explicit discussion and consideration of the compensation issue would include a "no compensation" term as opposed to any other specific compensation agreement. Thus, the majoritarian default -- or, perhaps more accurately, the "pluralitarian" default -- in the context of tissue donation would be one of no compensation.

When default rules are selected of the basis of their presumed hypothetical appeal to the greatest number of parties who, in actuality, don't select a contractual arrangement for themselves, the default should be interpreted relatively weakly; that is, if there is any evidence that the parties actually intended some other arrangement, that arrangement should be enforced. This suggests that, assuming the Moore "no compensation" default is majoritarian, the Greenberg court should have awarded compensation to the patients. Although the details of their compensation arrangement was admittedly unclear, it was very clear that the researcher and the patients understood that the patient participation was not expected to be entirely altruistic.

\textit{B. Information-Forcing Defaults}

A second principled basis for selecting a default rule is to provide an incentive for better-informed parties to share information with those who possess less information, in order to increase the likelihood that all parties will make informed decisions. This is done by making the default rule one that is unattractive to better-informed parties, thus encouraging them to explicitly opt for an alternative contract term. Default rules selected with this goal in mind are often called "information-forcing" defaults or "penalty" defaults.\footnote{See Ian Ayres & Robert Gertner, \textit{Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules}, 99 YALE L.J. 87, 97-99 (1989).}

The canonical example of an information-forcing default is the rule of Hadley v. Baxendale,\footnote{156 Eng. Rep. 145 (1854).} which limits damages for breach of contract to those that are foreseeable as the probable result of a breach. Because this limitation is unattractive to parties who stand to suffer unusually large damages, they have an incentive to disclose their peculiar circumstances so that their large potential losses become foreseeable to other party. In this example, the information exchange that the choice of default rules produces is information about the characteristics of one of the contracting parties. But information-forcing defaults can also force disclosure of information about the intentions of one of the parties or information about the legal consequence of a certain act when one party has greater knowledge about the law itself.\footnote{See, e.g., Korobkin, \textit{Status Quo Bias}, supra note \_, at 619.}

In the tissue donation context, an information-forcing default rule would provide that donors are due compensation for their tissues unless they clearly agree to make an uncompensated gift to research. Researchers, with their ready access to legal counsel and administrative support,
have the wherewithal to make the terms of the donation explicit, whereas individual donors might not realize the financial consequences of their donation. An information-forcing default rule gives an incentive to researchers to inform subjects about these consequences.

To best serve this purpose, information-forcing defaults should be "strong" defaults, meaning that courts should not find that the parties have overridden the default in the absence of very clear contractual language to that effect. For example, in order to secure an uncompensated donation under an information-forcing default rule, researchers would be required to procure a signed agreement, probably incorporated as part of the informed consent process, that provides something akin to the following: “The parties agree that the donor will not receive any compensation whatsoever as a result of this donation regardless of whether it is used for commercially profitable innovations.” Failure to state this consequence clearly would subject the researcher who produces a commercially viable product to future financial liability under an implicit contract for “reasonable” remuneration or under a theory of unjust enrichment, as per the Greenberg case (either for the market value of the tissue or the amount of value that tissue created for the researcher). Alerted to the facts (1) that the researcher believes that the donated tissue might help in the development of a commercially profitable test or treatment, and (2) that it is the researcher’s intent not to compensate donors for the tissue regardless of its usefulness, a potential donor could either accept the proposed “no compensation” term knowingly or attempt to negotiate a different term with the researcher.

Whether a potential donor would be successful in attempting to negotiate a different term will depend, of course, on market conditions. If there are many altruistic donors whose tissue would provide a perfect substitute, the researcher presumably would refuse the request for payment. If the donor's tissues would be uniquely useful for the particular research project, the researcher would be more likely to agree to compensation. Either way, the default rule would insure that donors have sufficient information about the financial consequences of their decision to donate.

C. Policy-Supporting Defaults

While the choice between "majoritarian" and "information-forcing" defaults has been well-known in the contracts literature since Ayres and Gertner made this distinction in 1989, there is a third basis for choosing a default rule as well. This is to encourage, without requiring, private contractual choices that are consistent with the larger public interest. I call default rules selected with this goal in mind "policy-supporting" defaults.

In theory, the presence of transaction costs makes it possible to enhance social welfare to some degree by selecting as defaults terms in private agreements that have positive externalities. Given transaction costs, some sets of parties with weak preferences for an alternative term would not contract around the default because the cost of doing so would exceed the small potential benefit. Put slightly differently, default rules will be somewhat sticky – not every set of contracting parties that would prefer an alternative rule will provide one. Under this theory, however, how sticky default rules will be -- and thus how effectively they can be used to support socially beneficial policies -- depends critically on the level of transaction costs. If it is relatively cheap and easy to contract around a default, selecting the content of the default for policy-supporting reasons will have little effect.

48 Ayres & Gertner, supra note __.
49 Cf. Ayres & Gertner, Majoritarian vs. Minoritarian Defaults, 51 STAN. L. REV. 1591, 1599-1600 (1999) ("ceteris paribus….defaults that produce positive externalities should be favored….").
The possibility that policy-supporting defaults can have a significant (rather than a minimal) positive influence on social welfare, however, becomes far more likely when we recognize that private preferences are constructed rather than inherently fixed, and that they are based, at least in part, on external cues. A important example of this is what is the phenomenon known as the "status quo bias": all other things being equal, people tend to prefer the status quo to alternative states of the world. Because default rules can help share contracting parties' perception of the status quo, the status quo bias suggests that default rules are likely to be far more sticky than would be predicted by the presence of transaction costs alone.

Research has demonstrated that in many contexts default rules can be perceived as reflecting the status quo, even when opting out of the default is easy to do. Considering the following findings from experimental and real-world studies: Given a choice between investment funds with different objectives, people tend to prefer whatever fund the money was invested in when they received it. Automobile drivers prefer no fault insurance if state law makes that the default and fault-based insurance if state law makes that the default, even if they may freely choose the alternative type. More workers choose to invest in workplace-sponsored 401K plans if they must opt-out of participation than if they must opt-in, even when opting in or out is simple and costless. Contract negotiators are not willing to pay as much money to override an undesirable term (if it is the default) in favor of more desirable term as they would demand before agreeing to the undesirable term if the desirable term is the default.

The research on the general bias in favor of default options suggests that if the law makes "no compensation" the default rule for tissue donations, we would expect to see relatively more uncompensated donations. In contrast, if the law makes compensation a default rule, we would expect to see more compensated sales. If the default is no compensation, researchers will be less likely to offer compensation and donors less likely to request it than if compensation is the default, because what is viewed as standard or normal carries with it a certain amount of desirability.

Biomedical research is socially beneficial, and relatively more of it will be conducted if the costs of obtaining research tissues are lower rather than higher, assuming all other things are equal. This observation does not justify an immutable "no compensation" rule, because such a rule would not only unacceptably infringe on the autonomy of researchers and tissue donors, it would risk a tissue shortage – potential donors not willing to provide tissues for free would simply opt out of donation altogether. It does, however, mean that a default rule of "no compensation" is defensible on policy-supporting grounds. Some individuals would donate research tissues for no compensation regardless of the default, of course, because the good feeling they enjoy from the altruism of the act justifies any risk, harm, and inconvenience.

55 Korobkin, Status Quo Bias, supra note __, at 633-47.
56 For a thorough critique of laws that seek to prohibit compensation for research tissues, see Russell Korobkin, Buying and Selling Human Tissues for Stem Cell Research, -- Ariz. L. Rev. -- (forthcoming, 2007).
Others would demand payment before donating, regardless of the default. But for potential donors in a third group, the choice of default is likely to affect the strength of their preference for compensation. For people in this category, a no-compensation default might suggest that demanding payment would be greedy, whereas a pro-compensation default might imply that donating for free would make them suckers.

A contrary argument can be made that encouraging payment for tissues is socially desirable, and thus that the policy-supporting rationale counsels in favor of a pro-compensation default rule. This argument is rooted in the belief that distributive justice requires compensating tissue donors. The scientists who investigate the medical potential of human tissues receive salaries, as do the legislators that pass laws that govern biomedical research and the journalists and professors who study and write about the field. Commercial firms that invest capital in biotech industry research hope to reap profits from their investments as well. As a matter of equity, arguably, the donors of tissues that are critical to making scientific advancement possible also should receive compensation. Even if this principle is not important enough to require payment to tissue donors who are willing to make altruistic donations, it deserves consideration as a principle that the law should encourage through selecting a pro-compensation default rule. This argument essentially forms the basis for Justice Mosk's dissent in Moore. Arguing that Moore stated a claim for a conversion, Mosk pointed out that Dr. Golde and the U.C. Regents profited from the Mo cell line and called it "both inequitable and immoral" that they would deny Moore, whose "contribution to the venture is absolutely critical...any share whatever in the proceeds...."

The problem with this argument is that, despite Justice Mosk's elegant rhetoric, there is no principled basis for determining how the profit potential of a biomedical potential should be divided between the potential claimants. Whether a particular donor's tissue is "absolutely critical" depends on whether it has unique qualities. If it does, a no-compensation default does not prevent the donor from demanding a substantial fixed payment or share of royalties. Information asymmetries might interfere with the donor doing so, but, if so, this argument is better understood as providing support for a pro-compensation default based on the information-forcing rationale rather than making out a case for basing such a default on the policy-supporting principle.

D. Comparing the Principles in the Biomedical Research Context

1. No Compensation or Pro Compensation?

When choosing between majoritarian and information-forcing default rules, two critical considerations are the degree of information disparity between the relevant parties (greater disparities favor information-forcing rules) and the transaction cost that would burden those parties who wish to agree on terms other than the default set (greater costs favor majoritarian rules).

In regard to the first factor, research scientists undoubtedly have far greater access to information concerning the legal rules governing tissue transfers and the commercial potential of biomedical research than do potential donors. Excepting the few who are part of organized


58 Moore, 51 Cal. 3d 120, 175 (Mosk, J., dissenting).
disease advocacy groups, most potential donors have virtually no information at all concerning the consequences of donation. That said, an information-forcing default rule is unlikely to level the informational playing field in any meaningful way, because the piece of information that an information-forcing default would encourage researchers to disclose — that no payment is forthcoming — is one of the few inferences that most donors will draw from silence on the issue. In other words, establishing a pro-compensation default rule will force researchers who do not wish to pay for tissues to state this fact rather than remain silent on the point, but silence on this point is unlikely to make very many donors assume that payment is forthcoming. Consequently, selecting a default rule on the basis of the information-forcing principle is unlikely to have much of a practical effect.

This is not to say that informational asymmetries between researchers and tissue donors are unimportant or even that the law should not try to level the informational playing field. The Moore court, although it ruled for the defendants on the conversion claim, held that Dr. Golde violated his duty to obtain informed consent by not disclosing prior to operating on Moore his potential to profit from Moore's spleen. Elsewhere, I have argued that the Moore requirement that biomedical researchers must disclose personal financial interests should be extended to the context of tissue donations that are unconnected to therapeutic interactions. But ensuring that researchers provide donors with information about the commercial potential of biomedical research can be accomplished only by imposing affirmative regulatory requirements, not by adopting a pro-compensation default rule for tissue transactions. The crux of John Moore's complaint was not that he thought Dr. Golde was planning to pay him for his spleen, but that Dr. Golde never told him how valuable the spleen might be.

Concerning the second factor, even assuming that the most likely compensation term would be "no compensation," forcing parties who wish to use this term to specify it would cost little. In very few cases (the facts of Greenberg, which in turn requires that scientists disclose a substantial amount of information about the nature of the research to their
Because it would be relatively easy for researchers to specify their compensation policies and arrangement as part of or adjunct to the informed consent process, requiring researchers who do not wish to compensate tissue donors to communicate clearly that no compensation is being offered will add very little marginal cost to any research endeavor.

The choice of the default rule will have an important effect on total transaction costs, however, when stem cell scientists wish to use tissues already housed in tissue banks for research purposes. A recent study conducted by the Rand Corporation estimates that more than 300 million human tissue samples reside in tissue banks in the United States alone. Most of these samples either were obtained as part of therapeutic interactions or were collected for research projects long since completed. In some cases, researchers long ago obtained general consent to use the tissues for research purposes; in others, no consent for research was ever sought. It is probably the very rare case that there is documentation of an explicit discussion between the tissue's donor and the physician or researcher who procured the tissue concerning compensation.

A no-compensation default would almost certainly be the majoritarian rule concerning all varieties of banked tissues. That is, the vast majority of tissue donors, if specifically approached, would be willing to permit the research use of their banked tissues, usually long forgotten, without compensation. And, when banked tissues are at issue, the transaction costs associated with contracting around a pro-compensation default would be extremely high. In order to avoid paying compensation under such a pro-compensation default, researchers would be forced to locate and recontact the donors to seek explicit permission to use the tissues without charge. In many cases, perhaps most, this process would be infeasible or extremely costly, and it could stifle research progress, for very little purpose. It was probably with an eye to this problem of pre-existing, banked tissues accompanied by consent forms silent on the question of compensation that the Moore court claimed biotechnology research would be hampered by “uncertainty about how courts would resolve [future] disputes between specimen sources and specimen users” if it were to rule that John Moore was due compensation for his spleen.

The case for a no-compensation default on majoritarian grounds is reinforced by the policy-supporting principle, which points in the same direction. A no-compensation default rule can help reinforce a social norm that favors altruistic donation and, in so doing, convince some potential donors to give without compensation, thus reducing the cost of research. The impact of the default rule on the preferences of potential donors is not likely to be enormous, for the simple reason that most donors will never actually even know what the default rule is. Regardless of the default, unless they wish to offer compensation to a particular donor or group of donors, careful researchers will state clearly in their informed consent documents that donors will not be entitled to compensation. To the extent that perceptions of the status quo affect donors' desire for compensation, donors are more likely to base their view of what constitutes the status quo on this boilerplate language than on the content of legal default rule that would operate in the absence of any explicit term.

65 45 C.F.R. § 46.116(a) (2005).
67 Moore, 793 P.2d at 493.
68 Cf. Russell Korobkin, Inertia and Preference in Contract Negotiation: The Psychological Power of Default Rules and Form Terms, 51 Vand. L. Rev. 1583, 1608-09 (1998) (inferring from studies that terms appearing in initial drafts of contracts are likely to be viewed as constituent parts of the status quo and can outweigh the power of legal default rules).
The default rule is likely to have a significant effect on the preferences of researchers, however. Through their interaction with IRB's that must approve their research designs and consent procedures and, on occasion, university or company lawyers, many, if not most researchers, will be aware of the default rule, and the content of the default quite plausibly could affect how motivated they will be to offer compensation to tissue donors. Presumably, scientists have a private incentive to offer compensation, regardless of the default rule, if doing so is necessary in order to obtain the quantity or quality of tissue needed for the project at issue. If compensation is not strictly necessary, however, scientists have a private incentive to seek altruistic donations, because saving money on tissue procurement will allow their funding (whether it comes from public grants or private sources) to stretch further. A no-compensation default reinforces this set of incentives, which is also socially optimal. A pro-compensation default, however, might alter the social perception of uncompensated donations among researchers. Such a default might suggest that non-payment is exploitative rather than thrifty, and encourage scientists to offer compensation in a wider range of situations.

The balance of concerns counsels for a legal regime that permits compensation for human tissues but treats donations that are silent on the issue of compensation as altruistic. A no-compensation default is justified on majoritarian grounds, especially in the context of banked tissues, and is also justified on policy-supporting grounds. Although the information-forcing rationale favors a pro-compensation default, but the practical benefits that such a default would produce are likely to be minimal.

2. Weak or Strong Defaults?

When a default rule is selected on the basis of its presumed hypothetical appeal to the greatest number of parties – that is, based on the majoritarian principle – the default should be interpreted relatively weakly. If there is any evidence that the parties actually intended some other arrangement, that alternative arrangement should be enforced. Since majoritarian default rules achieve their legitimacy because they are presumed to reflect the terms that silent contracting parties would have chosen had they not been silent, any indication that parties actually prefer a different term must be recognized. This suggests that, under the majoritarian principle, the Greenberg court should have permitted the Canavan patients to proceed to a jury trial and attempt to prove their allegations that they had an inchoate understanding with Dr. Matalon. Although the details of the arrangement between the plaintiffs and Dr. Matalon were unclear, if the plaintiffs' allegations are believed, it was clear that both researcher and subjects understood that participation was not expected to be entirely altruistic.

When a default rule is selected based on the policy-supporting principle, in contrast, the default should be strong. Because such a rule derives its legitimacy not from presumed party approval but from the social benefits it can provide in cases in which it is operative, it should be interpreted to be operative in unclear cases. The policy-supporting principle suggests that the Greenberg court should have dismissed the conversion and unjust enrichment claims of the Canavan patients, ruling that allegations of a hazy agreement to provide some undefined level of access to in-kind benefits is legally insufficient to overcome the presumption of the no-compensation default.

Because the two grounds for selecting a no-compensation default for tissue donations point toward opposite approaches, the choice between interpreting the default rule strongly or weakly is not clear cut. Ultimately, however, the balance of practical concerns suggests a weak default rule is most appropriate. Because donors will usually be far less sophisticated than researchers
who rely on advice from IRBs and lawyers, contradictory or vague assurances that could reasonably be interpreted as offers or promises of cash or in-kind compensation should be interpreted as such. As discussed above, except when banked tissues collected in the past are concerned, the cost to researchers of avoiding confusion or misunderstanding concerning compensation will be low -- at worse, they can avoid the problem by placing clear language in their consent documents\(^69\) -- so there is little reason not to place the burden of avoiding such misunderstandings on them.

It is when banked tissues are at issue that interpreting the no-compensation default weakly could create some unavoidable problems for researchers who wish not to pay compensation. If preexisting consent forms are silent on the issue of compensation, researchers could use the tissues without payment. If consent forms suggest (but don't clearly promise) some type of compensation, and the cost of recontacting and "reconsenting" the donors is high, however, researchers might have to forego using those tissues to avoid, as the Moore court feared, "purchas[ing] a ticket in the litigation lottery."\(^70\) With hundreds of millions of banked tissue samples available, however, this limitation is unlikely to substantially slow research progress.

**CONCLUSION**

The California Supreme Court's decision in Moore is rightly considered important, but for the wrong reason. It is a case about contract, not about property. This distinction is critical to recognizing the opinion's value. Understood as a decision that denies property rights in human tissues, it must necessarily be viewed as fatally flawed: in all kinds of ways, the law implicitly recognizes that property rights in both embodied and disembodied tissues. Understood as a decision that establishes a "no compensation" default for tissue donations, it creates a legal regime that permits compensation for research tissues but both encourages altruistic donations and minimizes the transaction costs of donations.

In the 21st century, biotechnology is becoming increasingly important in medical research. If biomedicine is able to fulfill the hopes of the scientific community by creating a new paradigm for the treatment of disease -- one in which biological agents regenerate diseased or dead tissues -- disembodied tissues could become the cures for a variety of ailments. It is likely that scientists around the world will need a tremendous amount of human tissues of all types just to mount the research effort, regardless of whether the promise is ever actually fulfilled. In the new era of biomedical technology, it is critically important for the law to facilitate tissue transactions efficiently. This, in turn, requires understanding and embracing the underlying wisdom of Moore.

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\(^69\) One possible objection is that even researchers who make no representations that could reasonably be interpreted as promises of compensation could be dragged into litigation by donors who claim that verbal representations were made, and that such allegations would be sufficient to avoid summary judgment. But if researchers include in their consent documents clear statements that no compensation will be forthcoming, allegations of inconsistent verbal statements should be inadmissible under the parol evidence rule and thus insufficient to avoid a motion for summary judgment.

\(^70\) Moore, 51 Cal. 3d at 146.