ARTICLES

THE MARKET FOR HUMAN TISSUE

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INTRODUCTION .................................................................................. 164
I. THE UBIQUITY OF COMMERCE IN THE DISTRIBUTION OF
   HUMAN BIOLOGICAL MATERIALS ................................................ 167
   A. The Commercialization of Human Tissue and the
      Boundaries of the Market Domain ............................................ 167
   B. The Extent of Commodification: Four Examples .................. 173
   C. Conclusion: Of Markets and Altruism ................................... 192
II. WHAT WOULD TRUE NONCOMMODIFICATION REQUIRE? ...... 196
III. REGULATING MARKETS IN HUMAN BIOLOGICAL
    MATERIALS ...................................................................................... 200
    A. The Usefulness of Concepts of Property and Markets......... 201
    B. The Alleged Perils of Market Discourse ............................. 206
    C. Assessing Regimes in Human Biological Materials ............ 210
    D. Compensation of Tissue Sources ............................................ 211
IV. THE LIMITS OF ALTRUISM.......................................................... 215
CONCLUSION ...................................................................................... 221

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INTRODUCTION

EVEN in this era of enthusiasm for free markets, controversy rages over the appropriate boundaries of the free enterprise system—what should be for sale and what should be kept out of the domain of the market? The debate is particularly fierce when transfers of human tissue are concerned. Permitting market exchanges in human body components, it has been suggested, can lead to a variety of undesirable social consequences. Humans may become "commodified," with each person valued solely or primarily on the basis of the monetary worth of her physical components. Human body parts might be employed to make "profits," a prospect that arouses fervent opposition. The availability of monetary compensation for human tissue may discourage gratuitous transfers of life-saving or health-enhancing materials, which many insist are superior to bargained-for exchanges on the grounds that such gifts promote altruism and reinforce a sense of community.

1 See Elizabeth Anderson, Value in Ethics and Economics 141 (1993) (arguing that "an adequate grasp of liberal commitments to freedom, autonomy, and welfare supports more stringent limits on markets than most liberal theorists have supposed"); Margaret Jane Radin, Contested Commodities xi (1996) ("The contemporary arena of moral and political debate is full of painful and puzzling controversies about what things can properly be bought and sold..."); Michael J. Trebilcock, The Limits of Freedom of Contract 23 (1993) (inquiring "whether certain human attributes or resources should lie wholly or partly beyond the exchange process...").

2 In this Article, "human tissue," "human biological materials," and "human body components" denote all materials that can be removed from living or dead humans, including replenishable substances such as blood, bone marrow, hair, and skin, and nonreplenishable materials such as the heart, liver, kidneys, and gametes. See Office of Tech. Assessment Task Force, New Developments in Biotechnology: Ownership of Human Tissues and Cells 24 (1987) [hereinafter Office of Tech. Assessment] (distinguishing undeveloped human biological materials from biological inventions).

3 See, e.g., World Health Org., Guiding Principles on Human Organ Transplantation, 337 Lancet 1470 (1991) (asserting that components of the human body should not be the subject of commercial transactions).

value of the human body increases due to advances in medical science and biotechnology, so do fears that pressure to increase the amount of available tissue will result in the expansion of markets for human tissue.5

These concerns have contributed to a marked and widespread unwillingness to acknowledge the essential role of commerce in the distribution and allocation of human biological materials. But the fact that human tissue is rarely advertised and is not traded on exchanges should not lead to the conclusion that commercial activity is absent. On the contrary, money changes hands at numerous points in the chain of distribution from tissue source to ultimate consumer: Transplant patients pay to receive organs, fertility patients purchase ova and sperm, and biotechnology firms sell products derived from human cells.6 Indeed, it is virtually impossible to imagine how human biological materials would be distributed if commerce in such materials were prohibited. If human tissue and its products could never be exchanged for money or other items of value, then rights to their use and possession would have to be gratuitously transferred at every stage of the chain of distribution. Implementing a system of only uncompensated transfers would—to put it mildly—require a radical overhaul of current medical and scientific practices, but the debate over the acceptability of commerce in human materials is strangely silent on this issue. Instead, the controversies in this area revolve around the issue of who will be entitled to share in the financial returns made possible by the urgent demand for human biological materials, with particular emphasis on whether the human sources of usable tissue (or their surviving relatives) will be permitted to receive compensation. As now conducted, then, the debate over the commercialization of the human body is not about commercialization at all, but rather about how the financial benefits available will be apportioned.


6 See Dorothy Nelkin & Lori Andrews, Homo Economicus: Commercialization of Body Tissue in the Age of Biotechnology, Hastings Center Rep., Sept.–Oct. 1998, at 30 (describing the variety of ways that the human body is becoming “hot property” to be exploited for profit as well as for scientific advances).
This Article argues that markets in human biological materials not only exist but are for all practical purposes unavoidable, and that the ostensible debate over whether human tissue ought to be bought and sold distracts attention from pressing questions relating to the allocation of the burdens and benefits of the dramatic scientific advances of the past several decades. The failure to recognize both the pervasiveness and the near inevitability of commerce in human biological materials, I will argue, exacts a heavy cost. Without an understanding of the magnitude and distribution of the economic returns generated by commerce, it is impossible to assess the desirability of current regimes.\(^7\)

The development of technologies that enable materials from one human body to be of use to others necessitates decisions about what sorts of commercial activity in human tissue will be permitted and how commerce involving these materials will be regulated. It is important to note that no one argues that markets in human biological materials should be wholly unregulated, and that the questions to be answered involve the terms and conditions of appropriate regulation of market activity.\(^8\) These questions are likely to increase in urgency as new uses for human biological materials are discovered and existing uses are perfected, but they cannot be addressed if the existence of property rights in human biological materials is denied or ignored. Recognition of the ubiquity of commercial activity would compel an examination not only of who should be permitted to realize economic returns from transfers of human tissue, but also of what sorts of altruistic conduct should be expected or encouraged on the part of various members of society.

Part I of this Article scrutinizes the distributional networks of four different types of human tissue: solid organs that are made available for transplantation, corneas, ova (human eggs) provided by paid "donors," and human tissue used in biotechnology research. Part I demonstrates that commercial transactions in human tissue are more extensive than is commonly acknowledged, and focuses on an important but largely undisputed phenomenon:

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\(^7\) In this Article, "regime" denotes rules derived from both law and social norms. See Robert C. Ellickson, Property in Land, 102 Yale L.J. 1315, 1319 (1993) (explaining the use of the term "land regimes" to mean rules representing "amalgams of law and custom").

\(^8\) See infra Section III.A.
Distribution networks frequently feature interactions between altruistic participants and parties that strive to realize financial returns. Part II turns to the question of what genuine noncommodification of human biological materials would require, and argues that removing human tissue from the market domain demands far more than restricting the payment of compensation to the original human sources. Rather, the achievement of noncommodification would necessitate enormous changes in the health care and biotechnology industries, changes that are highly unlikely to occur in the foreseeable future. Part III contends that given current institutional arrangements, concepts of markets and property are not only useful but indispensable, for without a grasp of how markets in such materials operate it will be hard to figure out who has benefited and how. Part IV examines the assumption that gifts of human tissue are preferable to sales, and argues that the pervasive rhetoric celebrating donative transfers fails to scrutinize the potential burdens of altruism. Part IV concludes that the expanding usefulness of human biological materials necessitates a careful evaluation of the responsibilities of individuals in possession or control of life-saving and health-saving materials.

I. THE UBIQUITY OF COMMERCE IN THE DISTRIBUTION OF HUMAN BIOLOGICAL MATERIALS

A. The Commercialization of Human Tissue and the Boundaries of the Market Domain

Not everything can be for sale in a well-functioning market economy.9 There is widespread agreement, for example, that political power, judicial decisions, police protection, and exemptions from military service should be excluded from the workings of the market, because to permit them to be sold would undermine important social institutions.10 Objects and rights that cannot be

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9 See Kenneth J. Arrow, Gifts and Exchanges, 1 Phil. & Pub. Aff. 343, 344 (1972) ("It is obvious on the most superficial observation that the allocation of goods and services is not accomplished entirely by exchange, as standard economic models would hold.").

10 See Michael Walzer, Spheres of Justice: A Defense of Pluralism and Equality 97–103 (1983) (arguing that society consists of different "spheres" in which varying principles of distribution are followed and providing a "list of things that cannot be had for money"). See generally Judith Andre, Blocked Exchanges: A Taxonomy, 103 Eth-
transferred, even gratuitously, are called inalienable; those that can be given away but not exchanged for valuable consideration are referred to as market inalienable.\textsuperscript{11}

Determining the degree to which human tissue should be inalienable has proved difficult. However precious modern technology has made human biological materials, the prospect of tissue transfers stirs anxiety, for with the opportunity to help each other comes a breakdown of the boundaries that separate human beings from each other.\textsuperscript{12} In addition, thoughts of human tissue evoke strong reactions of unease and disgust,\textsuperscript{13} generating reluctance to ponder issues concerning the collection, processing, and allocation of such materials. The usefulness of the body tissue of one individual to another militates against the creation of a system in which all human tissue transfers are forbidden and each human body is considered inviolate. At the same time, there is little support for unfet-

\textsuperscript{11}For discussions of restrictions on alienation, see Trebilcock, supra note 1, at 29 (expressing the belief that many intuitions regarding the limits of the market domain "ultimately rest on notions of contracting or market failure, in particular, on externalities, coercion and information failures"); Cass Sunstein, Disrupting Voluntary Exchanges, in Markets and Justice 279 (J. Roland Pennock & John W. Chapman, eds., 1989) (discussing reasons for prohibitions on voluntary transactions that do not harm third parties); Richard A. Epstein, Why Restrain Alienation?, 85 Colum. L. Rev. 970, 970 (1985) (maintaining that the right of alienation is a "normal incident of private ownership" and that "principled reasons for limiting" that right are "concerned with the practical control of externalities"); Susan Rose-Ackerman, Inalienability and the Theory of Property Rights, 85 Colum. L. Rev. 931, 968–69 (1985) ("[R]estrictions on the transferability, ownership, and use of property can be justified under a range of different assumptions . . . ."); William H. Simon, Social-Republican Property, 38 UCLA L. Rev. 1335, 1341–43 (1991) (arguing that restrictions on the alienation of certain forms of property may "contribute to the maintenance of a politically desirable distribution of wealth by preventing presumptively imprudent transfers . . . .").

\textsuperscript{12}See generally Alan Hyde, Bodies of Law vii (1997) (exploring the "range of metaphors, similes and other verbal constructions" employed by members of the legal profession in talking about the human body); Wendy Doniger, Transplanting Myths of Organ Transplants, in Organ Transplantation: Meanings and Realities 194 (Stuart J. Youngner et al. eds., 1996) [hereinafter Organ Transplantation] (arguing that popular myths relating to human dismemberment and organ donation demonstrate the tension between the desire to keep the body intact and the wish to recycle organs and other useful parts of the body).

tered exchange; the unique, personal nature of the human body sparks uneasiness with the idea that commercial activity might involve human tissue.

Many justifications for restricting alienation, particularly market alienation, of human biological materials have been offered. Some can be categorized as instrumental, supporting restraints on transfers out of concerns for their immediate, ascertainable effects. Into this category fall arguments that living sources of tissue should be prevented from exposing themselves to significant health risks associated with retrieving certain types of usable tissue, that permitting surviving relatives to sell tissue derived from the newly deceased could spur them to withhold consent for life saving medical treatment, and that donated human biological materials are inherently safer than ones that come from paid human sources. Other arguments for limiting transfers reflect uneasiness with the idea that human biological materials are or might be allocated by the market. One objection frequently raised to actual or contemplated market transactions in human tissue—the claim that human body parts are not appropriate objects of commerce—provokes especially bitter controversy.

Concerns about the increasing commodification of the human body are not new. Over a century ago, an article in the *American Law Review* noted that the demand of the "science of medicine" for the dissection of human remains had led to a "revolution" whereby the human corpse had become "a thing of value, a subject of political economies, perhaps to be bought, sold, and exchanged, and subject to the rules of supply and demand." The article was referring to new methods of medical instruction that required whole corpses to be dissected by students learning anatomy, an innovation that had the dual effect of augmenting apprentice physicians' knowledge of human geography and fueling demand for a steady supply of pedagogical materials.

14See infra text accompanying notes 170–172.
15See, e.g., World Health Org., supra note 3, at 1470 ("The human body and its parts cannot be the subject of commercial transactions.").
16Francis King Carey, The Disposition of the Body After Death, 19 Am. L. Rev. 251, 252 (1885).
17See id.; see also Thomas Laqueur, Bodies, Death and Pauper Funerals, 1 Representations 109 (1983) (detailing the eighteenth-century French origins of modern
The needs of medical education were not easily reconciled with the common law’s pronouncements that cadavers were not property and that a dead human body could not be used for commercial purposes. Several “solutions” were devised to the problem of ensuring an adequate supply of corpses for dissection without permitting an open market in human bodies: an illicit trade in recently deceased bodies exhumed from local churchyards flourished from time to time in Great Britain and the United States, and statutes were passed providing that the bodies of persons unknown and of those who perished while in the care of the state and were unclaimed by relatives could be used for dissection.

The emergence of the study of anatomy as the cornerstone of modern medical training bestowed economic value on the bodies of the dead; until the medical advances of the past century, however, human tissue from a living body was of use, almost exclusively only to its original possessor. That state of affairs came to an end in the first two decades of the twentieth century, when


See Alan Ryan, Property 111 (1987); Jesse Dukeminier, Jr., Supplying Organs for Transplantation, 68 Mich. L. Rev. 811, 833–35 (1970). Courts have sometimes referred to cadavers as “quasi-property,” a special category that was invented to recognize that surviving relatives had rights relating to the corpse for certain circumscribed human and familial purposes, such as the provision of a decent burial. See Larson v. Chase, 50 N.W. 238, 239 (Minn. 1891) (characterizing the right to possess a dead body as “in the nature of a sacred trust”); Pierce v. Proprietors of Swan Point Cemetery, 10 R.I. 227, 242–43 (1872) (“[T]he body is not property in the usually recognized sense of the word, yet we may consider it as a sort of quasi property, to which certain persons may have rights, as they have duties to perform towards it arising out of our common humanity.”).

Attempts to keep cadaver parts out of the commercial sphere were not entirely successful. Bodies could be and were quarried for teeth, bone, and hair. See Ruth Richardson, Fearful Symmetry: Corpses for Anatomy, Organs for Transplantation?, in Organ Transplantation, supra note 12, at 82.

See Richardson, supra note 17, at 70–73 (describing the infamous commercial trade in bodies procured by “bodysnatchers” or “resurrectionists” that was brought to an end—or at least severely curtailed—by the passage of the United Kingdom’s Anatomy Act of 1832); Carey, supra note 16, at 252–53 (recounting incidents of grave robbing at American cemeteries in the nineteenth century).


The major exception was hair, which was eagerly purchased by wigmakers. See Russell Scott, The Body as Property 180 (1981) (describing the trade in hair that has flourished for centuries).
blood transfusions became, for the most part, safe and effective. The ability to preserve lives through transfers of blood, however, was of little consequence absent reliable supplies of the substance. Although family members often served as sources of blood, doctors quickly turned to the free market to solve the problem of maintaining an adequate supply of available blood products. As a result, from about 1917 to the 1970s, a significant percentage of the United States’ blood supply was derived from paid human donors.

After World War II, human sperm joined blood as a marketable commodity derived from living humans, due to the emergence of artificial insemination as an acceptable option for couples facing infertility. Interestingly, although artificial insemination and blood transfusions did not gain immediate public acceptance, the objections raised were to the practices themselves, not to paying providers of blood and sperm.

Even after the emergence of transactions in blood products and sperm, the financial impact of markets in human body components was minimal, because rights to possess or use human body tissue—from the living or the dead—had limited economic worth. As one commentator has observed, “Until recently, the detritus of the barber’s shop or of the surgeon’s operating theatre were hardly of sufficient value to provoke disputed property claims.” Over the past several decades, however, a revolution in scientific knowledge and medical technology has dramatically increased the potential economic value of the human body. These dramatic technological

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23 See Douglas Starr, Blood: An Epic History of Medicine and Commerce 40–45 (1998). The first documented blood transfusion took place in 1818, but the results of early transfusions were often disastrous, in large part due to the medical practitioners’ failure to grasp the possibility that the blood of one individual might be poisonous to the system of another. The pioneering work of Karl Lindsteiner established the existence of distinct blood types, dramatically increasing the safety of the transfusions. See id. at 36–40.

24 See Titmuss, supra note 4, at 90–119.

25 See Scott, supra note 22, at 211 (describing the establishment of practices of payments for sperm).

26 See Starr, supra note 23, at 15.


29 See Andrews & Nelkin, supra note 5, at 53 (“[D]evelopments in the removal, storage, and transformation of human tissue have created new opportunities for medical research and biotechnological applications that have increased demands for tissue. Body tissue has become part of an international market.”).
breakthroughs have escalated the tension between preventing (or at least containing) the commodification of human body parts on the one hand and providing services that save and enhance human lives on the other. Public support for products and services that make use of human tissue is strong, but the prospect of commercialization of human body components evokes, for the most part, responses ranging from unease to horror. The unique qualities of human tissue have led to assertions that permitting human tissue to be transformed into a commodity carries substantial dangers. Moreover, the perceived risks extend beyond actual transactions in human body components. Some argue that the use of market language may have deleterious effects and that market language may be "inappropriate" when applied to human body parts. In a simi-

30 See, e.g., Kimbrell, supra note 27 (arguing that the sale of blood, organs, ova, and other human tissue poses a threat to human dignity, individuality, and integrity); Stephen R. Munzer, An Uneasy Case Against Property Rights in Body Parts, in Property Rights 259, 259 (Ellen Frankel Paul et al. eds., 1994) (presenting a "qualified case against property rights in body parts that are transferable in a market"). There are exceptions. See Lloyd R. Cohen, Increasing the Supply of Transplant Organs: The Virtues of an Options Market x (1995) (proposing that the shortage of transplantable organs could be alleviated or eliminated through the establishment of an options market whereby live individuals would be permitted to sell rights to harvest their organs upon death); Richard Epstein, Mortal Peril: Our Inalienable Right to Health Care? 249 (1997) (concluding that "[o]nly clear and unambiguous adoption of the market mechanism on both the supply and the demand side offers an adequate social response to the overall problem" of shortages of transplantable organs); Lori Andrews, My Body, My Property, Hastings Center Rep., Oct. 1986, at 28, 37 (arguing that we should allow people "the autonomy to treat their own parts as property, particularly their regenerative parts"); Henry Hansmann, The Economics and Ethics of Markets for Human Organs, in Organ Transplantation Policy: Issues and Prospects 57, 57-86 (James F. Blumstein & Frank A. Sloan eds., 1989) (maintaining that designing suitable markets in human organs is possible).

31 See generally Nelkin & Andrews, supra note 6, at 31 (describing disputes over the ownership of human biological materials and concluding that these disputes "reflect a conviction that turning tissue, cell lines, and DNA into commodities violates body integrity, exploits powerless people, intrudes on community values, distorts research agendas, and weakens public trust in scientists and clinicians").

32 See Margaret Jane Radin, Market- Inalienability, 100 Harv. L. Rev. 1849, 1936 (1987) ("The rhetoric of commodification has led us into an unreflective use of market characterizations and comparisons for almost everything people may value, and hence into an inferior conception of personhood.").

lar vein, there is widespread opposition to employing the language of property to describe the distribution and allocation of human tissue.\textsuperscript{34} Some express fears that applying the language of property and the market to parts of the human body could diminish our sense of uniqueness and lead to a conception of humans as fungible, interchangeable objects of trade.\textsuperscript{35} Critics warn that if we speak of human body parts in language commonly employed to describe quotidian commercial transactions, then what we hold most precious—our very individuality—might be devalued.\textsuperscript{36}

**B. The Extent of Commodification: Four Examples**

The hesitation to think about human tissues as potential commodities has contributed to a failure to acknowledge openly the obvious: Tissue transfers—whether or not for compensation—from a lower-value user to a higher-value user create value and, therefore, the potential for monetary returns. When the organs of a brain-dead cadaver are harvested and transplanted into waiting patients, the donees certainly think they are receiving value and, if able, are willing to pay. The use of sperm for purposes of artificial


\textsuperscript{35} See, e.g., Radin, supra note 1, at xi (raising concerns about “the connotations of something’s being treated as a commodity against the background of our contemporary common understanding of organized markets”).

\textsuperscript{36} See, e.g., Renée C. Fox & Judith P. Swazey, Spare Parts: Organ Replacement in American Society 207 (1992) (objecting to what the authors perceive to be a movement toward “commodification” and “marketification” of human organs on the grounds that this “marketmodel” accompanies and reinforces a tendency to regard transplantable materials “as ‘just organs,’ rather than as living parts of a person, offered in life or death to sustain known or unknown others, that resonate with the symbolic meaning of our relation to our bodies, our selves, and to each other . . . ”).
insemination results in increased value, as does the transfer of unusual spleen cells from a patient in need of spleen removal to researchers who will build a valuable cell line from his tissue.\textsuperscript{37}

The additional value that results from these transfers can, of course, be described as "priceless." Desperately ill patients awaiting organs will be saved from death, infertile couples will achieve their dreams of parenthood, and biotechnology companies will pursue research that yields important knowledge that will accrue to all humankind. Such observations, however, beg the question of the extent to which the price system should be used to allocate human tissue. Many goods that are widely agreed to be "invaluable," such as food, shelter, and medicine, are the subject of bargained-for exchanges. In a market economy, prices are attached to items that virtually everyone acknowledges are basic human necessities, with values that cannot be adequately described in terms of a specific quantity of currency. In the contexts of food, medical care, housing, and other basic necessities, the "priceless" nature of the good leads not to protestations that such goods should be exempted from the market domain but to efforts to assist less affluent individuals in obtaining adequate supplies of such goods.\textsuperscript{38} In the realm of human biological materials, by contrast, the concept of "pricelessness" is invoked in support of the proposition that markets ought to be avoided as a means of collecting and distributing such materials.

Yet as the examples below illustrate, markets in human materials are not only thriving but inescapable. Distribution networks for human biological materials reflect a range of rules and practices, but in no case is every link in the chain of distribution an uncompensated transfer. In some of the situations detailed below, the human source is paid for transferring tissue; in others, the initial transfer of tissue is gratuitous, while other participants in the distribution chain receive financial compensation. Even in cases where the tissue that has been separated from its human source

\textsuperscript{37}See generally Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990) (en banc) (holding that no cause of action for conversion could be maintained under the alleged facts that the defendant doctors used the plaintiff's spleen cell samples for purposes of financial and competitive benefit).

\textsuperscript{38}These efforts include the creation of food stamps, rental vouchers, and emergency shelters.
starts out as "uncommodified," at some point the tissue becomes, in effect, a commodity, as rights to use and possess the tissue are exchanged for value. These examples indicate that preventing tissue sources from receiving compensation does not lead to a lack of commercialization of human biological materials. Rather, requiring the initial link in the distribution chain to be a gift simply postpones commercial activity. Such postponement constitutes, as a practical matter, a decision to favor allocations of the economic surplus created by transfers to health care providers, biotechnology companies, and other institutions that function as links between tissue sources and final consumers.

The failure to comprehend and acknowledge the role of commerce in the distribution of human biological materials is associated with a curious and disturbing result: Individuals are frequently asked to perform acts of altruism that bestow significant benefits on entities that pursue their financial interests aggressively. As a result, many chains of distribution of human biological materials feature both participants who harbor altruistic motives and participants who are motivated by considerations other than altruism. Although the initial transferors (e.g., donors of solid organs, patients who agree to provide tissue to be used in medical research) may be spurred solely by beneficence, subsequent transferors (e.g., transplant programs, pharmaceutical companies) often are not. In consequence, human tissue that enters the chain of distribution as a gift is frequently transformed into a commercial product—one that is sold, not donated, to its ultimate recipient.⁴⁰

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³⁹ For the purposes of this Article, altruism is defined as the willingness to make an uncompensated transfer. A substantial body of evidence indicates that altruism is prevalent among humans. See, e.g., C. Daniel Batson & Laura L. Shaw, Evidence for Altruism: Toward a Pluralism of Prosocial Motives, 2 Psychol. Inquiry 107, 119 (1991) (collecting the results of research in social psychology and concluding that many acts of humans are undertaken with "an ultimate goal of increasing the welfare of another"); Jane Allyn Piliavin & Hong-wen Charng, Altruism: A Review of Recent Theory and Research, 16 Ann. Rev. of Soc. 27, 27–65 (1990) (reviewing academic literature in sociology, psychology, political science, and economics and concluding that "true altruism . . . does exist and is a part of human nature"). See generally Robert H. Frank, Passions Within Reason: The Strategic Role of the Emotions (1988) (detailing the importance of altruism in a functioning society); Barry Schwartz, Why Altruism is Impossible . . . and Ubiquitous, 67 Soc. Service Rev. 314 (1993) (concluding that altruism is "pervasive" and discussing the conditions that promote its development).

⁴⁰ See infra Part II.
None of the distribution chains discussed below features only participants motivated by altruism. As with most human endeavors, the individuals and institutions involved display a variety of goals and objectives: to make available life-saving and health-saving medical services, to earn substantial returns on investments of labor and capital, or to achieve recognition in a particular field. While altruistic motivations are present in varying degrees, in each example human biological materials are used to make money. The language used to describe the transactions, however, frequently fails to reflect the commercial possibilities, reflecting the unease with markets in human materials harbored even by enthusiastic participants in commercial activity.

1. Transplantable Solid Organs. Although human organ transplants were first attempted in the United States in 1951, early transplantation techniques met with only minor success due to the limited ability of medical science to suppress the immune systems of organ recipients. Without effective therapies to prevent the transplant patient's body from rejecting the new organ, transplantation procedures could offer, for the most part, only modest extensions of life. The introduction in the late 1970s of cyclosporine, a powerful immunosuppressive agent, marked the beginning of a new era in organ transplantation, and over the past two decades the number of transplant procedures performed has increased significantly. In 1998, nearly 21,000 solid organ transplantation procedures were performed, including 12,000 kidney transplants and 4,500 liver transplants.

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42 One telling example of this phenomenon is recounted by British medical historian Roy Porter: Over two-thirds of the hundred-plus recipients of heart transplants in 1968–69 perished within three months. See id. at 621.
43 See Fox & Swazey, supra note 36, at 3–4 (noting the “determining role” of cyclosporine in the “dramatic rise in the number of organ transplantations carried out in the 1980s”).
44 “Solid organ” means kidney, heart, liver, lung, pancreas, or any of the digestive organs. See Anderson, supra note 4, at 251 n.7.
plantable solid organs, however, far outstrips the supply: As of July
14, 1999, a total of 64,450 individuals were registered on the United
Network for Organ Sharing ("UNOS") national patient waiting
list, and in 1998 about 4,000 people died while awaiting a trans-
plant.46

The bulk of transplantable solid organs are obtained from ca-
daveric donors.47 Gifts of cadaveric organs are made pursuant to
the Uniform Anatomical Gift Act ("UAGA"),48 a version of which
has been enacted in every state.49 Except in the case of corneas, do-
nations of organs for transplant take place only as the result of an
affirmative act on the part of the donor or the appropriate surviv-
ing family member.50 A donation can result from the donor’s
decision to obtain and complete an organ donor card, but the ma-
majority of organs are procured through specific requests of family
members at the time a potential donor suffers brain
death.51 Al-
though the UAGA provides that a properly executed anatomical
gift by a decedent can take effect without the consent of surviving
kin, in practice medical personnel rarely retrieve organs if they
know of any objection on the part of close relatives.52

The UAGA as originally drafted was silent on the issue of
whether human sources of organs (or their survivors or estates)
could receive payment.53 The question of direct payments to organ
sources or to their survivors was resolved with the passage of the

46 See id.
47 In 1998, transplantable organs were obtained from approximately 5,800 cadaveric
donors and 4,100 living donors. While living donors provide only one organ for trans-
plantation, cadaveric donors generally yield two or more. See id. The vast majority of
living donors furnish kidneys, which are donated to close relatives, spouses, or even,
occasionally, friends and coworkers. Portions of livers and lungs have also been ob-
tained from living donors, although at present these procedures are far from routine
and usually involve gifts from parents to minor children or from one spouse to the
other. See Richard J. Howard, How Can We Increase the Number of Organ and Tis-
49 See the annotations accompanying the UAGA, id. at 19.
50 See James Childress, Practical Reasoning in Bioethics 268–69 (1997).
51 See Anderson, supra note 4, at 255–56; Childress, supra note 50, at 269.
52 See Robert E. Sullivan, The Uniform Anatomical Gift Act, in Organ and Tissue
UAGA of 1987).
National Organ Transplant Act ("NOTA")\textsuperscript{44} in 1984, which prohibited payments for any organ to be used for transplantation.\textsuperscript{45} In addition, many state statutes forbid payments for transplantable organs.\textsuperscript{46} The critical shortages of many transplantable organs have sparked extensive and well-publicized debates over whether applicable law should be changed to permit the offering of compensation to tissue sources or to their surviving relatives.\textsuperscript{47}

Although approximately half of those surveyed in two separate public opinion polls indicated their willingness to consider proposals involving various forms of financial incentives for organs\textsuperscript{48} and several prominent bioethicists have opined that payments for organs are not necessarily unethical,\textsuperscript{49} there is little indication that the restrictions on payments to organ donors and their survivors will be lifted in the near future. The sole exception to the nationwide prohibition on compensation consists of a brand-new pilot program in Pennsylvania, pursuant to which families that agree to donate

\begin{footnotesize}
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\item\textsuperscript{44} 42 U.S.C. §§ 273–274(f) (1994).
\item\textsuperscript{45} "It shall be unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce." Id. § 274(e).
\item\textsuperscript{47} See Edward Nelson et al., Financial Incentives for Organ Donation: A Report of the UNOS Ethics Committee Payment Subcommittee (last modified June 30, 1993) <http://www.unos.org/Resources/bioethics_whitepapers-finance.htm> ("The concept that financial incentives be offered as a potential solution to the ongoing organ donor shortage has been previously considered and debated among experts in the fields of transplantation, ethics, law, and economics."); Howard, supra note 47, at 324 ("Few proposals to increase organ donation generate as much controversy as the idea of financial incentives for organ donation.").
\item\textsuperscript{48} See Nelson et al., supra note 57, at 3. But see Sheldon Kurtz and Michael Saks, The Transplant Paradox: Overwhelming Public Support for Organ Donation Versus Under-Supply of Organs: The Iowa Organ Procurement Study, 21 J. Corp. L. 767, 792 tbl. 8 (1996) (reporting on the results of a survey that found very little support for any of four proposals regarding financial incentives for organ providers).
\item\textsuperscript{49} See, e.g., Childress, supra note 50, at 282, 299 (1997) (concluding that while the "sale of organs" is not "intrinsically wrong," a society may nonetheless "be justified in prohibiting such sales and in avoiding a market as a way to increase the supply of organs"); J. Radcliffe-Richards et al., Letter to the Editor, The Case for Allowing Kidney Sales, 351 Lancet 1950 (1998) (urging that payments to living sources of kidneys should be considered as a means of alleviating the great suffering caused by the shortage of transplantable kidneys).
\end{itemize}
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cadaveric organs will receive a $300 stipend to be used to offset burial expenses.60

Opponents of payments to organ sources or their survivors rely in large part on arguments that organs should not be commodified,61 expressing the strong conviction that there should be "a preference for gifts over markets in human organs."62 One prominent critic of paying human sources or their survivors for organs writes:

The world of markets and contracts regulates a great many human interactions. But a prominent sphere of gifts also exists, intimately tied to establishing and maintaining important relationships. The sphere of gift differs from the sphere of markets in many ways . . . Perhaps the simplest way to put it is that markets are principally about goods and money; gifts are about human relationships.63

The Council on Ethical and Judicial Affairs of the American Medical Association expressed its opposition to payments in more vehement terms, arguing that financial incentive programs both "dehumanize society by viewing human beings and their parts as mere commodities" and "undermine altruism in society."64

Those who contend that organs available for transplant should be removed from the market neglect to discuss the considerable amounts of money that the possession of transplantable organs can

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60 See Fred Charatan, Pennsylvania Plans to Reward Organ Donation, 318 Brit. Med. J. 1371, 1371 (1999). An official of the Federal Health Resources and Services Administration has suggested that the payments may violate NOTA and has pledged "to look at the program closely," but to date the federal government has taken no steps to halt the pilot program. Organ Donation: Pennsylvania Breaks New Ground, Health Line, May 6, 1999, available in LEXIS, News Library. Pennsylvania has denied that the $300 represents a payment, instead characterizing the stipend as a "voluntary death benefit." Id.

61 See Cohen, supra note 30, at 76 ("Anti-commodification lies at the base of the legal prohibition of an organ market.").

62 Thomas Murray, Organ Vendors, Families, and the Gift of Life, in Organ Transplantation, supra note 12, at 120.

63 Id.

generate. Organ Procurement Organizations ("OPOs"), the institutions that procure organs from donors and deliver them to transplant programs pursuant to the system established and administered by UNOS, receive payments from transplanting hospitals. These payments are often described as "acquisition fees," and while NOTA prohibits the "transfer of any organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce," OPOs are permitted to receive "reasonable payments associated with removal and transportation." Transplant programs then provide these organs to patients as part of a comprehensive package of transplant services, and in turn are paid considerable amounts for these services by organ recipients and their insurance companies.

Not all organs that are donated for transplant purposes are turned over to an OPO for distribution: If a harvesting hospital operates its own transplant program and has a suitable candidate on its waiting list, in many cases UNOS regulations permit the hospital to transplant the organ directly into the local candidate. Because the right to transplant an organ is valuable, it is not surprising that the total number of transplant programs in the United States has increased substantially, as harvesting hospitals recognize that they can obtain shares of the available economic returns by entering the

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66 NOTA, 42 U.S.C. § 274e (1994). According to a 1993 study, the median "donor acquisition charges" billed to transplant patients ranged from approximately $12,000 to $16,000. See Evans, supra note 65, at 3115–16.
67 See Evans, supra note 65, at 3116 ("Based on the data presented herein, it is clear that the 'gift of life' can be financially lucrative to hospitals and OPOs."). In 1994, mean charges for the first year following transplantation, which include assessment, the transplant procedure, and follow-up care, ranged from $116,000 for a kidney transplant to $314,000 for a liver transplant. See Milliman & Robertson, Inc., Research Report: Cost Implications of Human Organ and Tissue Transplantations, An Update: 1996, at 27–28 (1996). Charges for transplant procedures vary significantly among programs. Id. Moreover, the actual amounts collected are often lower, as third-party payers and hospitals engage in bargaining. Id.
transplant business. Although many transplant programs claim to lose money, there is reason to doubt this assertion: Few programs are closed down, many new programs are established, and fierce competition exists for services of qualified transplant surgeons. Furthermore, transplant programs are willing to expend substantial sums battling over the contours of federal regulations that affect the allocation of organs. Recent proposed regulations that would have the probable effect of routing more organs to large transplant programs have provoked intense lobbying on Capitol Hill.

Throughout the distribution process, transplantable organs are generally not referred to as property, despite the fact that rights to their control become increasingly valuable. And yet transplantable organs are, in a sense, property from the moment that transfer becomes possible. Transplantable solid organs start out as goods that are transferable but market-inalienable. Whoever has the power to donate (or refuse to donate) the organ can be said to pos-

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69 See Barnett & Kaserman, supra note 68, at 506, 509–10.
70 See Kathleen W. Posni & Michael Goetz, Scope, Learning, and Cross-Subsidy: Organ Transplants in a Multi-Division Hospital, 60 S. Econ. J. 715, 715 (1994) ("According to their own statements, hospitals view organ transplants as unprofitable or ‘money losing’ procedures. Industry representatives believe that only a few large transplant centers make money on transplants. At the same time, hospitals continue to petition ... for permission to open new transplant centers and expand existing centers.").
71 See Scott McCartney, Agonizing Choices: People Most Needing Transplantable Livers Now Often Miss Out, Wall St. J., Apr. 1, 1993, at A1, available in 1993 WLWSJ 700258 (describing a “$500 million market” in which transplant hospitals have been known to offer “million dollar signing bonuses to lure coveted transplant surgeons”).
72 See W. John Moore, Life-and-Death Lobbying, 30 Nat’l J. 1631, 1631 (1998) (detailing the substantial amounts expended on lobbying efforts by the University of Pittsburgh Medical Center and by a consortium of smaller programs). The effective date of the proposed regulations, which were promulgated by the Department of Health and Human Services, was originally set for September 1998. Pressure from a number of entities, however, delayed their effectiveness until November 1999. See Sharon Hussong, Administrative Developments: DHHS Issues Organ Allocation Final Rule, 27 J.L. Med. & Ethics 380, 380 (1999).
73 Organs are sometimes referred to as communal property. See Childress, supra note 50, at 298–99 (stating that donated organs belong to the “community” and that “[f]rom this perspective, organ procurement and transplant teams accept donated organs as trustees and stewards for the community as a whole”). In addition, organ procurement has been held to be “commerce” for purposes of the Commerce Clause of the United States Constitution. See Delaware Valley Transplant Program v. Coye, 678 F. Supp. 479, 481 (D.N.J. 1988).
sess a property right, albeit of a limited kind. If donation is agreed to and the applicable OPO obtains the organ, the OPO obtains property rights substantially greater than those of the donor. Although the OPO’s rights to alienate are severely restricted, it can nonetheless receive money for its role in facilitating the distribution of organs to the transplant programs. Finally, when the organ is allotted to a patient who is on the waiting list of a transplant program, the property rights connected with the organ are again transformed. The transplant candidate to whom the organ is allocated has an exclusive right to purchase that organ (along with transplant services) but only from that particular transplant program at the price agreed to by the transplant program and whoever is footing the bill for the transplant. The transplant candidate is not given rights to a specific organ and told she is free to acquire the transplant services on her own; to acquire an organ, she must pay a transplant program money.

In the hands of the transplant program, then, the organ becomes, in effect, a market-alienable good, and is sold to patients as part of an indivisible package. One can argue that the organ is not sold, and that patients pay only for medical services, but in fact the services have no value without the organ, and patients have no opportunity to acquire organs in a separate transaction. Since a patient can only acquire rights to an organ as part of a purchase of transplant services, it would be absurd to purchase only transplant services. The argument that patients pay only for medical treatment, and never for human organs, is no more persuasive than contending that restaurants sell not food, but only “dining services.”

What is commonly thought of as a debate over whether organs should be commodified is fundamentally a dispute over whether the initial transfer from organ source to transplant program should involve payments. Arguments for banning payments to sources and their families must be grounded on something other than the assertion that human tissue should not be commodified. They must

74 See supra text accompanying notes 65-67.
75 See, e.g., Rosemary Rhodes, Organ Transplantation, in A Companion to Bioethics 333 (Helga Kuhse & Peter Singer eds., 1998) (addressing the issue of whether “it is permissible to allow the market to operate” to increase the available pool of transplantable organs by compensating donors).
instead justify the distinction between tissue recipients and intermediaries, who are permitted to engage in commerce, and organ sources and their survivors, who are not. Of the arguments commonly advanced for restricting payments to tissue sources, only the instrumentalist ones (such as the idea that organ sources will expose themselves to excessive risk) even begin to provide such a distinction. The instrumentalist arguments, however, are best understood as arguments for regulating a market, not as arguments for denying the existence or desirability of a market, a point to which I will return in Part III.

The denial of the existence of financial returns to transplant programs encourages donors to conceptualize their donations as a gift to the organ recipient, one that is delivered by the transplant program. In fact, their donation more closely resembles a gift to the intermediaries in the distribution network, a gift that is then sold as part of a package of transplant services. It is true that the existence of waiting lists for transplants indicates that the market clearing price is not being charged in every sale of bundled transplant services, but that does not mean that the financial resources of potential recipients are irrelevant. Even though the materials distributed to potential organ donors stress that organs are distributed to those on waiting lists on the basis of need, without taking into account “race, ethnicity or ability to pay,”76 in fact prospective patients in need of new solid organs are only placed on lists to receive transplants if they document that the costs of the procedure will be covered by insurance, their own financial resources, or government assistance.77

2. Corneas for Transplantation. Replacement of the cornea, the thin clear tissue that covers the iris, is the most frequently performed transplant operation.78 Approximately 45,000 corneal

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77 See Arthur L. Caplan, Obtaining and Allocating Organs for Transplantation, in Human Organ Transplantation: Societal, Medical-Legal, Regulatory, and Reimbursement Issues 5, 6 (Dale H. Cowan et al. eds., 1987) (describing the operation of the “green screen,” whereby many uninsured or indigent patients who would benefit from a transplant are never put on waiting lists). See generally Lisa B. Deutsch, Medicaid Payment for Organ Transplants: The Extent of Mandated Coverage, 30 Colum. J.L. & Soc. Probs. 185 (1997) (discussing the varying levels of organ transplant services provided by states to indigent residents).
transplants were performed in 1996, at an average cost of $8,000. 79
Corneas are included in the definition of "organ" under NOTA 80
and state statutes restricting organ sales, 81 and many corneas are
acquired pursuant to explicit bequests by a decedent or from dona-
tions by surviving family members. There is, however, an
additional, little-known process for gathering corneas for trans-
plantation: Statutes in approximately twenty states permit a coro-
ner to remove the corneas of a cadaver on which an autopsy is
performed if there is no known objection from surviving relatives. 82
Commonly referred to as "presumed consent" laws, these contro-
versial statutes were enacted in the 1960s, 1970s, and 1980s, largely
as the result of aggressive lobbying by eye banks and corneal sur-
geons who warned of an impending shortage in corneas. 83 Sources
of corneas are referred to as "cornea donors," regardless of
whether they or their loved ones ever evinced a willingness to have
their corneas transplanted into another human.

The ability of coroners to harvest the corneas of corpses en-
trusted to them creates opportunities for market transactions, as
coroners' offices sell the retrieved corneas to tissue "banks," or-
ganizations that operate facilities where eyes and other materials
removed from cadavers are preserved. The tissue banks serve an
intermediary function, in turn reselling usable eyes to corneal
transplant programs. Late in 1997, press reports documenting a se-
ries of such exchanges appeared in the Los Angeles Times. 84 From
1992 to 1997, reported the Times, the Los Angeles County coro-
ner's office delivered corneas to the Doheny Eye and Tissue
Transplant Bank in exchange for total payments of over

79 See id. at 32.
81 See, e.g., Fla. Stat. Ann. § 873.01(3)(a) (West 1999); Ind. Code Ann. § 35-46-5-
These statutes generally authorize the removal of corneas from cadavers that undergo
autopsies, provided that the medical examiner's office has no knowledge of any
objections to the procedure on the part of the autopsy subject's surviving relatives. See
Richard Merrill, The Regulation of Human Tissue by the FDA 5 (Nov. 1999)
(unpublished manuscript, on file with the Virginia Law Review Association).
83 See Merrill, supra note 82, at 3.
84 Ralph Frammolino, Harvest of Corneas at Morgue Questioned, L.A. Times, Nov.
Doheny paid the coroner's office $215 to $335 per cornea, then resold the corneas for significantly more. The disclosure of these practices provoked a firestorm of criticism of both the presumed consent laws and the practices of the coroner's office. In September 1998, in response to these criticisms, California enacted a law requiring coroners' offices to secure the consent of the next of kin prior to removing corneas.

The critics of the Los Angeles operation failed to recognize that these transactions are not unusual. A coroner who has the authority to direct the disposition of corneas possesses a valuable right, one that can be described as a property right. As such, we should not be surprised that eye banks are eager to offer something of value in exchange. Eye banks generally pay money to obtain corneas, whether obtained from morgues, hospitals, or otherwise, and in turn receive money from corneal programs. Corneal transplant programs in turn sell transplant services—which, of course, include a cornea as part of the deal—to patients.

As with transplantable solid organs, functioning markets help ensure that usable corneas become available for transplant into seriously ill individuals. In both cases, it is hard to imagine a distribution network that does not involve bargained-for exchanges at one or more points. The use of the price system to allocate transplantable eye tissue demonstrates that "noncommodification" is a myth.

3. Ova. The need of the fertility industry for "donor eggs"—ova obtained from young women following a regime of drugs that stimulate their ovaries to produce approximately ten to twenty...
eggs instead of the usual one egg—has led to a growing demand for women willing to undergo the invasive and uncomfortable series of procedures that result in harvesting eggs from one woman for implantation into another. The practice of recruiting women to serve as egg donors has long been controversial, due in part to reservations about administering powerful hormones with unknown long-term side effects to women in the early stages of their reproductive lives. Providers of eggs are called donors, but to induce "donation" both fertility clinics and aspiring parents follow standard commercial procedures, offering financial compensation in advertisements appearing in periodicals and on websites. Fertility clinics insist, however, that donors are being paid for their time and trouble, not for the physical goods retrieved, and some programs decline to discuss the issue of payment altogether, for fear of "creating an atmosphere of commercialism."

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89 See generally New Ways of Making Babies: The Case of Egg Donation (Cynthia B. Cohen ed., 1996) [hereinafter New Ways of Making Babies] (detailing the procedures employed by fertility clinics and addressing practical and ethical considerations associated with the use of "donor" ova).

90 Studies completed on the long-term side effects of fertility hormones have focused on samples of infertile women who have undergone ovarian stimulation, not fertile women. See National Advisory Bd. on Ethics in Reproduction, Report and Recommendations on Oocyte Donation, in New Ways of Making Babies, supra note 89, at 233, 272–73. In addition to possible long-term health consequences, egg donation can result in bloating, nausea, and severe mood swings. See id. Approximately 3% of women also experience ovarian hyper-stimulation syndrome, a serious condition that often requires hospitalization. See id.

91 See, e.g., Joseph Berger, Yale Gene Pool Seen as Route to Better Baby, N.Y. Times, Jan. 10, 1999, at 19 (reporting that “[y]oung women scanning The Yale Daily News over the last year have found their eyes straying to advertisements” offering payments of up to $7,500 for their eggs); IVF New Jersey, The IVF New Jersey Website, (visited Sept. 3, 1999) <http://www.ivfnj.com/deoverview.html> (urging visitors to the site to consider “donating” eggs in exchange for monetary payments totaling $5,000).

92 In the event that the retrieval process is halted after the administration of the hormones but before egg recovery, donors are paid a lesser amount. See Nancy A. Klein et al., Donor Oocyte Program at University of Washington Medical Center, in New Ways of Making Babies, supra note 89, at 3, 13; Patricia M. McShane, Oocyte Donation Service at IVF America-Boston, in New Ways of Making Babies, supra note 89, at 29, 33.

93 Lori Buttars, Selling Body Parts? Americans Squamish, Salt Lake Trib., Aug. 10, 1997, at J3 (discussing the refusals of employees of Utah reproductive clinics to comment on the amounts paid for eggs and sperm).
The controversy surrounding compensation for egg donation is documented in a number of recent newspaper articles. A 1998 announcement by a New Jersey fertility clinic of plans to double the compensation offered to egg donors from $2,500 to $5,000, thereby breaking an informal price ceiling that had been in force in the greater New York metropolitan area, generated extensive press coverage and commentary. In the words of the *New York Times*, accounts of the price increase “put a spotlight on what is perhaps the touchiest issue in the egg donation process: are the eggs a gift or a free-market commodity?” In March 1999, the price offered for usable ova reached a new high when an advertisement placed in the campus newspapers of several Ivy League schools offered a $50,000 “financial incentive” to an “Intelligent, Athletic Egg Donor.”

No one disputes that the ultimate recipient—in the case of ova, the woman who is having difficulty achieving pregnancy with her own eggs—will pay substantial amounts for the bundle of goods and services that includes implantation of eggs harvested from a donor. Nor does anyone deny that the fertility patients who purchase eggs are almost invariably richer than the women who provide them. The prospect that the source of the ova might be motivated solely by a desire to command the full market value of her ova, however, provokes disapproval. Most fertility programs

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95 See Sharon Lerner, The Price of Eggs: Undercover in the Infertility Industry, Ms., Mar./Apr. 1996, at 28 (reporting that New York area egg donors rarely received over $2,500 due to what one doctor engaged in the recruiting of egg donors referred to as a “tacit agreement” among programs to keep the same (somewhat low) level of donor compensation).
96 Kolata, supra note 94, at A1; see also Fertility for Sale, N.Y. Times, Mar. 4, 1998, at A21 (collecting the opinions of a “variety of experts” on the topic of whether “women should be permitted to sell their eggs on the open market”).
97 The advertisement stipulated that an acceptable egg provider must have “an SAT score of at least 1400, athletic ability, and ... height of at least 5'10'.” Sydney Leavens, Yale U. Students and Professors React to Egg Donation Ad, Yale Daily News, Mar. 4, 1999, available in LEXIS, News Library (describing various reactions among members of the Yale community).
98 See, e.g., Cynthia Gorney, Statement, in Fertility for Sale, supra note 96, at A21 (comparing egg donors to women who serve as pregnancy surrogates and arguing that in neither instance should a woman “be tempted to do it because she wants or needs money”); Rebecca Mead, Eggs for Sale, New Yorker, Aug. 9, 1999, at 56, 60 (report-
emphasize that they seek egg sources with altruistic as well as financial motives, and some infertile couples specifically request eggs extracted from an uncompensated donor. Expecting egg providers to harbor altruistic motivations and characterizing the compensation as a reimbursement rather than a purchase fosters the impression that transfers of ova from their female sources are gratuitous transfers rather than commercial exchanges.

Moreover, the implication that young women should desire to undergo a series of highly uncomfortable procedures that pose both short-term and long-term risks to their physical well-being for which they will not collect the market clearing price threatens to reinforce stereotypes of females as generous rather than self-interested. Judgments about the appropriate motives for egg donors to harbor contrast markedly with the expectations that have been applied to sperm "donors": Payments to providers of sperm traditionally generated little or no controversy. Only recently have concerns about the long-standing practice of paying young males for sperm samples received sustained attention, perhaps in

99 See, e.g., Cynthia Joyce, The Price of Eggs in America, Salon (Mar. 5, 1998) <http:llwww.salon.comlmwtlfeaturel998/03/Cov05feature2.html> (relating the views of the manager of the University of Washington Fertility and Endocrine Center's donor egg program, who said, "If a woman says to me that she thought this would be a good way to make money, I'll tell her to go get a job... We talk about their motivations several times.... I want to make it harder for them to continue in the screening process").

100 See Klein et al., supra note 92, at 10.

101 See Carol M. Rose, Women and Property: Gaining and Losing Ground, 78 Va. L. Rev. 421, 426-28 (1992) (noting the commonly held impression that females are more likely to exhibit altruistic behavior than males).


103 See, e.g., National Insts. of Health, Report of the Human Embryo Research Panel 63 (1994) (concluding that "profit" should not motivate individuals to provide sperm or ova for research purposes).
response to the controversy engendered by payments to egg donors.

As in the case of transplantable organs and corneas, the debate over compensating the human sources of ova is commonly characterized as a debate over whether ova will be commodified. In fact, refusing to pay financial compensation to ova providers would serve only to delay, not to eliminate, markets in female gametes. Consumers of fertility treatments that require "donated" eggs are willing and eager to pay for a combination of the raw human material and expert medical services, just as purchasers of organ transplants pay for the package of organ and transplant services. To imagine that not compensating the egg provider will prevent ova from being transformed into a commodity is to misunderstand the extent of commercial activity in fertility treatments.

4. Tissue Used in Biotechnology Research and Product Development. "Biotechnology" has been defined as "any technique that uses living organisms (or parts of organisms) to make or modify products, to improve plants and animals, or to develop microorganisms for specific uses." Recent advances in biotechnology research and development have been fueled by new methods of removing, preserving, and transforming human tissue, and a steady supply of human cells is needed to provide "raw material" for projects. The motivations of scientists in pursuing biotechnology research are complicated: Although the pursuit of knowledge is highly valued in the scientific community, it is widely understood that such research carries with it the possibility of substantial economic returns.

A substantial amount of the tissue used in biotechnology research is extracted in the course of medical treatment and then, in

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104 See, e.g., Ruth Macklin, What is Wrong With Commodification, in New Ways of Making Babies, supra note 89, at 106, 106-20 (equating payments to individual egg providers with the commodification of ova).


106 Andrews & Nelkin, supra note 5, at 53-54 (concluding that "expanding commercial interests in the biotechnology age have reinforced" a tendency on the part of biomedical researchers to focus on the possession and control of valuable tissue, while exhibiting obliviousness to its human source).

107 See, e.g., Michael Day, Come the Revolution, New Scientist, Mar. 21, 1998, at 18 (detailing the efforts of pharmaceutical companies to realize the economic potential of the Human Genome Project, a scientific effort designed to map all human genes).
effect, abandoned by its human source, who is often—at least at
the time of the extraction—unaware that her medical waste carries
any potential economic returns. What sorts of rights, if any, the
human sources of the "raw materials" ought to have in their ex-
cised tissue or the products that are made from it has attracted a
great deal of attention. In Moore v. Regents of the University of
California, the most famous case involving the property rights of
a human tissue source, the California Supreme Court held that a
patient whose cells had been removed and used by his physicians
and others to construct a valuable cell line did not have a cause of
action for conversion. In support of its holding, the court noted
the lack of any precedent holding that an individual has a property
interest in excised cells. The majority was also influenced by an
economic argument that California's thriving biotechnology indus-
try would suffer if human sources of biotechnology materials were
able to demand compensation for the use of their excised tissue in
lucrative projects.

Raw human materials for biotechnology research are also pro-
cured through express donations from human sources, who agree
to give tissue out of a desire to improve the lives of others. In par-
ticular, families of individuals afflicted with diseases are often
eager to furnish blood samples, in the hope that their actions will

108 The most famous examples of individuals who unwittingly expanded the frontiers
of scientific knowledge are John Moore, see Moore v. Regents of the Univ. of Cal.,
793 P.2d 479 (Cal. 1990), and Henrietta Lack, the source of HeLa cells. See Michael
Gold, A Conspiracy of Cells: One Woman's Immortal Legacy and the Medical Scan-
del It Caused (1986) (describing the substantial economic value of products and
technologies derived from the cells of an impoverished patient).

109 793 P. 2d 479 (Cal. 1990).

110 John Moore, the plaintiff in the case, suffered from hairy cell leukemia, a rare
disease that afflicts only about 250 individuals per year. Due to his illness, Moore was
producing lymphokines, a crucial part of his immune system, in quantities vastly
greater than normal. See Moore, 793 P.2d at 482 n.2. The large quantities of lym-
phokines enabled Moore's treating physician, working with researchers at the
University of California, to construct a cell line using Moore's tissue. See id. at 481.
The commercial value of the cell line produced from Moore's lymphokines was esti-
imated to be worth millions of dollars. See id. at 482. Upon discovering how his
excised body tissue had been put to use, Moore sued, arguing, among other things,
that the owners of the cell line had committed the tort of conversion by taking his
property. See id. at 480–83.

111 See id. at 489.

112 See id. at 494–95.
hasten the development of an effective treatment or even a cure.\textsuperscript{113} Sources of human cells intended for genetic research are encouraged to make their tissue available without charge to organizations that intend to exercise proprietary rights over the assembled information.\textsuperscript{114} Such generosity often has ramifications not anticipated by the tissue providers, who are frequently disturbed to learn that the collected information is not available to all researchers, but instead is the property of a particular individual or organization.\textsuperscript{115}

Researchers in pursuit of knowledge are not shy about asking volunteers to provide them with materials. The practices of "gene prospectors," as those who visit remote, inbred populations to collect tissue for study are sometimes called, have drawn especially severe criticism, in part due to the fact that most of the targets of their scientific inquiry are neither markedly affluent nor highly educated, and therefore are potentially vulnerable to the entreaties of profit-seeking First World organizations.\textsuperscript{116} The financial incentives to engage in "gene prospecting" are considerable, as tissue samples from a large number of persons related to one another can enable scientists to identify specific genes that cause or create a


\textsuperscript{114} See, e.g., Lisa Belkin, The Clues Are in the Blood, N.Y. Times Magazine, Apr. 26, 1998, at 46. Belkin documents the efforts of a biomedical researcher to persuade members of poor families living on Cebu, a Philippine island, to provide blood samples for research on possible genetic causes of cleft lip and palate. Residents who agree to participate are cautioned that although "[s]ociety may benefit from the identification of molecular genetics of cleft lip and/or palate," there is "no direct benefit to you or your child from participating in this study." Id. at 53. The subjects are "not informed that their DNA, or information gleaned from it, will be patented and commercialized." Id. at 52 (quoting the Rural Advancement Foundation International Website, which critiques the nonpayment of donors at <http://www. rafi.org/communique/fltxt/1997l.html>). The organizers of the project defend their lack of total candor, arguing that the "odds for commercialization are extremely small" and that the practice of not promising future benefits—financial or otherwise—to tissue providers has "deep roots." Id. at 53–54.

\textsuperscript{115} See Marshall, supra note 113, at 566–67 (detailing controversies over how long researchers who collect a substantial quantity of blood samples should have exclusive rights to work with the data).

\textsuperscript{116} See Reginald Rhein, Canadian Group is Mouse that Roared on Gene Patents, Biotechnology Newswatch, Dec. 4, 1994, at 1 (describing the activities of the Rural Advancement Foundation International, an Ottowa-based advocacy group that contends that indigenous populations are routinely exploited by outsiders).
predisposition to various illnesses, leading to the design of valuable therapies. One of most discussed incidences of “gene prospecting” has involved the inhabitants of Tristan da Cunha, a South Atlantic island where members of ninety families descended from a handful of British settlers suffer from one of the highest rates of asthma in the world.\textsuperscript{117} Tristan da Cunha residents “opened their hearts, their homes and their medical secrets”\textsuperscript{118} in the course of providing blood samples to researchers, who entered into an agreement with Sequana Therapeutics, Inc., a California firm that specializes in biotechnology research, to collaborate in the search to locate genes that predispose the islanders to asthma.\textsuperscript{119} The blood collected has enabled Sequana to isolate and replicate a common susceptibility gene that causes or contributes to the development of the respiratory affliction.\textsuperscript{120} The inhabitants asked for no payment, nor is there any evidence that Sequana offered them any compensation, and this noncommercial attitude of the inhabitants garnered praise from Sequana’s physician-employee: “Money means nothing to them.”\textsuperscript{121}

\textbf{C. Conclusion: Of Markets and Altruism}

These examples demonstrate that avoiding the language of markets and property will not prevent the existence of markets, nor will attempts to describe transactions in noncommercial language inhibit efforts to realize gains from transfers of human biological materials. Refusing to employ the language of commerce disguises the fact that when human tissue is transferred from a lower value

\begin{footnotesize}
\begin{enumerate}
\item Lorraine Fraser & Brendan Bourne, Volcano Island Yields the Clue to Ease the Misery of Asthma, Mail on Sunday (London), Aug. 10, 1997, at 18, available in LEXIS, News Group File (“A world away from polluted Britain ... the selfless families who are giving millions hope.”).
\item See Marshall, supra note 117, at 565 (describing how financing from Sequana enabled two researchers to return to Tristan da Cunha to continue their research on genes and asthma).
\item Terence Monmaney, Gene Sleuths Seek Asthma’s Secrets on Remote Island, L.A. Times, Apr. 30, 1997, at A1. In response to critics who have charged Sequana with “biopiracy,” the company has stated that any asthma therapy it develops will be made available to Tristan da Cunha residents free of charge. Id.
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\end{footnotesize}
user to a higher value user, additional value is created. Such transfers will result not only in invaluable medical treatment and ground breaking research, but also in economic benefits to whatever entities are empowered to capture the surplus. This is true whether the institutions involved are for-profit firms or nonprofit institutions.

In addition, examining transactions in human biological materials illustrates how regimes that restrict or hinder transfers of materials have different effects on tissue sources and intermediaries. When separated human tissue is not by itself market alienable, economic value becomes harder to capture for individuals and entities that are unable to bundle the tissue with a service, as health care providers are able to do, or to transform the tissue into a different product, as biotechnology institutions can. Because human sources are unlikely to be able to combine their tissue with medical services or to conduct research on their excised cells, rules and

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122 As an organizational matter, for-profit firms have owners who are entitled to share in net earnings. These owners either exercise direct control over the firm's operations or, in many instances, particularly if ownership is distributed among a large number of shareholders, delegate control to elected directors, who in turn appoint professional managers. By contrast, nonprofit firms have no owners, as the individuals who control the nonprofit firm's operations lack rights to share in any net earnings. See generally Henry Hansmann, The Ownership of Enterprise 227-45 (1996) (describing the management and governance of nonprofit organizations). The distinction between nonprofit firms and for-profit firms is often indistinct. Many nonprofit firms, including many that provide health care services, engage in profit-making activities and are operated to maximize revenue, while numerous for-profit firms make charitable contributions. In a number of sectors of the economy, including health care services, nonprofit and for-profit firms coexist and compete. See Susan Rose-Ackerman, Altruism, Nonprofits, and Economic Theory, 34 J. Econ. Lit. 701 (1996) ("As the study of nonprofits has developed and the data base has grown, analytic efforts that preserve the sharp distinctions between the for-profit, nonprofit, and public sectors look increasingly problematic."); William P. Ryan, The New Landscape for Nonprofits, Harv. Bus. Rev., Jan.-Feb. 1999, at 127, 128 (describing recent increases in the number of for-profit organizations offering social services). Nonprofit organizations that provide public goods and charitable services to third parties are termed "donative" nonprofits, and are characterized by their heavy reliance on voluntary contributions from donors who expect nothing in exchange. "Commercial" nonprofits, on the other hand, obtain only a small amount of their revenues from donations; the bulk of their revenue is derived from fees paid by customers. The vast majority of commercial nonprofits compete for market share with for-profit organizations. See Hansmann, supra, at 233-34. Nonprofit providers of health care services, including hospitals, are generally classified as commercial nonprofits and as a group obtain only about 3.6% of their revenue from private contributions. See Rose-Ackerman, supra, at 705.
practices that purport to remove tissue from the market domain have the effect of ensuring that the tissue sources' shares of the economic returns will be modest or nonexistent.

In all four examples, the debate over whether to compensate the human sources of tissue (or their surviving families) is not equivalent to a debate over the commodification of tissue. Rather, the question of whether compensation should be paid to tissue sources amounts to nothing more than a choice between a regime in which human biological materials are initially donated and afterwards become the subject of market exchanges and one in which market activity begins with the initial transfer. The market in ova typically exists from the moment the female provider obtains money for her eggs,\textsuperscript{123} while the markets for solid organs and corneas begin not with the initial donation, but rather further along the distribution chain. The market for cells used in biotechnology generally commences when an entity or institution in possession of excised, abandoned tissue sells it or when a number of tissue samples are bundled together and used to obtain information, which can then be transferred for money. The constant is that every distribution network contains bargained-for exchanges at one or more stages.

In three of the four examples (transplantable solid organs, corneas, and tissue used for biotechnology research), the first link of the distribution chain is an uncompensated transfer from tissue sources or their survivors. In these instances, the altruism (or, in the case of certain donations, the ignorance) of donors leads to economic benefits both for nonprofit institutions that closely resemble profit-making institutions in their operations, such as transplant programs associated with hospitals, and for profit-seeking enterprises, such as biotechnology companies.

Tissue donors’ willingness to give may in some instances stem from a mistaken belief that the absence of a market for particular kinds of tissue at one stage means there is no market at any later point. Materials distributed to prospective donors of transplantable organs, in fact, appear to be designed to further such an impres-

\textsuperscript{123} A minority of ova sources receive no compensation for their eggs. See National Advisory Bd. on Ethics in Reproduction, supra note 90, at 271.
sion. Providers of tissue thus conceive of the transfer as a gift to the ultimate recipient or, in the case of human biological materials used in research, a gift to all of humanity. Under this view, the institutions that collect and allocate human tissue are regarded as conduits that may receive fees for transportation and services. The reality is more complicated: The intermediary organizations add substantial value to the “raw material” collected from donors, transforming it into a product that is then sold, rather than given, to the recipient. The ability of transplant programs and pharmaceutical companies to recognize significant financial returns is of great social benefit, for it encourages the deployment of resources into life-saving and health-saving activities. At the same time, the evaporation of the donor’s “gift” (or, in the case of much of the human material recovered for research purposes, the use of tissue that was thought to be mere medical waste by its original source) raises troubling issues.

It is possible, of course, that many human sources are not in the least confused about the probable effects of their actions. Donors may comprehend that most or all of the economic value of their gifts may not be “passed on” to the ultimate consumers, but will instead in many cases be captured by intermediaries. Such donors may simply assess their available options and figure that the world will be a better place for their altruism, notwithstanding the benefits they are bestowing on medical centers and biotechnology companies, institutions that in all probability are not the object of the tissue donors’ charitable impulses. In the case of transplantable solid organs, for example, would-be altruists are by law restricted, with limited exceptions for directed donation, to two choices: to permit their organs to be made available for transplant in accordance with UNOS procedures or to refuse to donate at all. A prospective donor may well prefer the former option to the latter, even though he objects to the level of financial returns realized by

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124 See, e.g., Virginia Organ Procurement Agency Website (visited Nov. 11, 1999) <http://www.vopa.org/questions.htm> (“The buying and selling of[ ] organs is against the law.”).

125 See supra text accompanying notes 113–121.

126 For example, usable livers are clearly “worth” far more in the hands of the University of Pittsburgh’s world famous transplant team than in the possession of the decedent’s next of kin.

127 See supra text accompanying notes 114–115.
transplant programs and the imposition of the "green screen" that limits the availability of transplants to the indigent and the uninsured.\textsuperscript{128}

Donations of tissue stand in marked contrast to donations of money or other valuable goods, where donors exert greater control over the distribution of the benefits of their gifts. Donations of money to nonprofit organizations generally represent either the purchase of services to be delivered to specific beneficiaries by a charitable intermediary or contributions toward a good that will be available to the public. In each case, the nonprofit intermediary organization is entrusted to act to carry out the wishes of the donor, rather than to use the contribution to benefit itself.\textsuperscript{129} Although contributors to nonprofit firms experience difficulties in monitoring the behavior of such organizations,\textsuperscript{130} the ability of the manager of a nonprofit to ignore the wishes of its donors is constrained both by social norms\textsuperscript{131} and, at least to some degree, by the competition for charitable dollars.\textsuperscript{132} Organizations that receive or obtain human tissue, however, are not understood to be serving an analogous intermediary role and, as a result, are often able to capture the economic value of what they obtain.

II. WHAT WOULD TRUE NONCOMMODIFICATION REQUIRE?

The horror expressed at the idea of market exchanges in human biological materials raises the question of what a genuine noncommodification regime would entail. If the literal meaning of "noncommodified" is imputed to the term, then rendering all hu-

\textsuperscript{128} See supra text accompanying notes 76–77.
\textsuperscript{129} See Hansmann, supra note 122, at 229–31.
\textsuperscript{130} See Geoffrey A. Manne, Agency Costs and the Oversight of Charitable Organizations, 1999 Wis. L. Rev. 227, 227–28 ("[I]n the nonprofit world, owners are not well-defined; their voting rights are questionable or nonexistent; charitable goals are ambiguous, or at least difficult to quantify; no significant second-order markets operate; and the residual claimants are either unable to monitor efficiently or unwilling to do so.").
\textsuperscript{131} See Henry B. Hansmann, The Role of Nonprofit Enterprise, 89 Yale L.J. 835, 875 (1980) (noting that "social norms" inhibit the directors and employees of nonprofit firms from misbehaving).
\textsuperscript{132} See Manne, supra note 130, at 228 n.5 (observing that "[t]his competition induces contributors to engage in some monitoring" but noting that "monitoring costs remain high").
The Market for Human Tissue

man tissue noncommodified would necessitate a radical overhaul of established practices. Human biological materials can only be described as being beyond the scope of the market if rights to their possession or use are never exchanged for anything of value and if such materials are never used as inputs into products or packaged with services that are exchanged for value. To put it another way, the eradication of commerce in human biological materials would require the total abandonment of the price system as a vehicle for allocating rights to human components. In place of the price system, rights associated with human biological materials would have to be gratuitously transferred at every stage of distribution, with the forces of generosity (or a governmental entity) guiding tissue from its original human source to its ultimate consumer.

Once this is understood, it becomes apparent why proposals that would effectively halt commerce in human biological materials are conspicuous for their absence, notwithstanding concerns that it may be “morally objectionable” to treat body parts as commodities and the well-documented “revulsions and repugnances” triggered by thoughts of commerce in bodily materials. Relying on the forces of altruism (or a combination of altruism and government bureaucracy) to allocate any resource within a complex distributional network will in all likelihood prove unsatisfactory, not necessarily due to a dearth of benevolence, but because there is no effective mechanism, analogous to the price system, capable of solving “the information and coordination problems confronting a legion of altruistic citizens looking to engage in collectively beneficial activities . . . .” Distribution chains in which each and every link is a genuinely gratuitous transfer can only succeed if none of the participants acts to capture the available economic surplus by selling tissue, and if the parties involved are able to solve the for-

133 Munzer, supra note 30, at 284 (making an “uneasy case” that treating a body part as a commodity can offend the dignity of a person).
134 Kass, supra note 33, at 68.
135 Avner Ben-Ner & Louis Puttermann, Values and Institutions in Economic Analysis, in Economics, Values and Organizations 3, 7 (Avner Ben-Ner & Louis Puttermann eds., 1998). The authors argue that a more “subtle interpretation” of Adam Smith’s statements that enlightened self-interest fuels the specialization and exchange that results in prosperity is that benevolence is hard to organize and channel, not merely that benevolence is “simply too scarce a resource to serve as the foundation for a prosperous economy.” Id. at 7.
midable logistical problems of coordinating benevolent behavior. As a result, it is difficult to conceive of a world in which transfers of human tissue are insulated completely from the workings of the market. The number of human actors necessary to convert the recovered human components into useful scientific and medical materials, combined with the fact that many of these actors are unable or unwilling to forego financial compensation, means that distribution systems based on gratuitous transfers are likely to prove unworkable.

It is important to emphasize that "noncommodification" cannot be achieved by simply requiring that every link in the distribution chain be either an individual who gratuitously transfers tissue or a nonprofit organization. While the involvement of nonprofits might serve to allay objections to the making of "profits" off of human tissue, such a solution would amount to solving the problem by defining much of it away. Nonprofit institutions continually engage in commerce involving human biological materials, often selling such materials for the maximum obtainable price. Indeed, nonprofit institutions in the health care field such as hospitals and tissue banks are among the most vigorous participants in markets for human biological materials, and the majority of organ transplant programs are affiliated with hospitals that are nominally nonprofit institutions, but charge many of their patients the maximum price that the market will bear. Nonprofit blood banks, such as the Red Cross, often sell selected products in locations where a higher price can be obtained in order to finance their operations in other areas. In addition, nonprofit firms function as buyers of human biological materials. Such commercial activities are in no way incompatible with the nonprofit form of organization. The prevalence of nonprofit firms that undertake commercial activities underscores the

136 See Richard G. Frank & David S. Salkever, Nonprofit Organizations in the Health Sector, 8 J. Econ. Persp. 129, 137-38, 144 (1994) (noting that although nonprofit hospitals provide uncompensated care, the bulk of their goods and services are delivered for competitive prices).
137 See generally Rose-Ackerman, supra note 122 (describing the formal requirements of nonprofit status as well as similarities in the operating activities of for-profit firms and nonprofit firms).
important point that nonprofit status should not be confused with lack of market participation.\footnote{See Avner Ben-Ner, Who Benefits From the Nonprofit Sector? Reforming Law and Public Policy Towards Nonprofit Organizations, 104 Yale L.J. 731, 732 (1994) ("Although most charity is performed by nonprofits, charity is only one of the many activities of the nonprofit sector.")(a)}

In short, the achievement of a genuine regime of noncommodification would necessitate radical changes in the operations of organizations that handle human biological materials. Profit-making and profit-seeking firms would withdraw, leaving the field to governmental entities and to nonprofit firms that agreed not to take part in bargained-for exchanges involving human biological materials. The elimination of the private sector might cause goods and services to be provided with greater levels of waste and inefficiency. In addition, limiting participation to public entities and "non-commercial" nonprofits would in all likelihood reduce the pace of scientific progress, as many of the most recent dramatic advances in the use of human biological materials have been developed in the private sector.\footnote{See Eliot Marshall, A Versatile Cell Line Raises Scientific Hopes, Legal Questions, 282 Science 1014 (1998); Robert P. Merges, Property Rights Theory and the Commons: The Case of Scientific Research, 13 Soc. Phil. & Pol'y 145, 145, 149, 155 (1996) (detailing concerns over what some view as the "excessively commercial" direction of scientific research but acknowledging the importance of formal and informal private property rights to "cutting-edge biotechnology research").} One notable recent example of such "cutting edge" research is the success of two separate research teams in growing germ cell lines from human embryos, a feat that eluded scientists until late 1998.\footnote{See Marshall, supra note 139, at 1014.} This research, which has the potential to revolutionize organ replacement therapy, received no public support whatsoever and was financed privately, in large part by Geron Corporation, a California biotechnology company that specializes in anti-aging research.\footnote{See id. In return for its financial support, Geron expects to obtain an exclusive license for the commercial use of the technology developed by one of the two research teams. See id.}

The dearth of serious proposals to remove human tissue from the realm of commercial activity underscores the degree to which current systems of medical services and scientific research rely on a constant stream of available human biological materials, a supply made more regular and plentiful by the existence of functioning
markets. Those who object to commercial activity should recognize both that restraining commerce in human materials demands far more than refusing to permit payments to tissue sources, and that the elimination of markets is likely to interfere with the provision of medical services and the advancement of scientific knowledge. If the debate were actually about whether human biological materials should be excluded from the marketplace, then discussions of the commodification of the human body would focus on what sorts of alternative institutional arrangements are feasible, given a decision to reject the price system as an allocative instrument. But this debate is not underway, for the obvious reason that true non-commodification of human biological materials represents a radical position, one with no public supporters.

What is in fact at issue in the so-called commodification debate, then, is not whether human biological materials should be removed from the market domain. Instead, the controversies revolve around the contours of permissible market activity: What sorts of exchanges will be permitted and encouraged, on what terms, and under what conditions? Who will be allowed to exchange her tissue for money, and who will be encouraged to give precious resources away? What limitations, if any, will restrict the ability of the recipient of a gift of tissue from, in effect, selling the tissue and reaping financial returns? The commodification debate, as currently conducted, serves as a distraction from the hard work of answering these questions.

III. REGULATING MARKETS IN HUMAN BIOLOGICAL MATERIALS

Concepts of property will be applicable so long as rights to human biological materials are transferred, and market analysis will be relevant so long as any of those transfers are bargained-for exchanges. Instead of eschewing language associated with commerce, it makes sense to take advantage of its usefulness, bearing in mind that property and market concepts are necessary but not sufficient tools for understanding existing and potential transactions.
A. The Usefulness of Concepts of Property and Markets

If we ask whether the concepts of property and markets advance our understanding of how human tissue is collected and allocated, the answer must surely be yes: Transactions in human tissue have many characteristics of market exchanges and the participants in such transactions have identifiable interests that fit well within established ideas of property rights. Whatever misgivings one might harbor toward thinking about human tissue as "property" and its transfer a "sale," market and property concepts are crucial for understanding transactions in human biological materials. Human tissue that has been or can be separated from its source has attributes traditionally associated with property: It is definable, defensible, and divestible. Property rights in human tissue include rights to use, alienate, exclude, or in any way control materials.

Many objections to the use of property and market language to describe tissue transfers involve claims either that such language is inaccurate or that its use implies that the value of tissue is limited to the pecuniary. Both objections reflect a lack of appreciation for the variety and subtlety of property and market discourse. The notion of "property rights," for example, is often thought of as being synonymous with the full range of property rights: As a number of

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\textsuperscript{13} The existence of property rights does not automatically entail the existence of markets in which such property rights are exchanged for valuable consideration. Functioning markets, however, require a system of property rights. See Harold Demsetz, Professor Michelman's Unnecessary and Futile Search for the Philosopher's Touchstone, \textit{in} Ethics, Economics and the Law 41, 46-47 (J. Roland Pennock & John W. Chapman eds., 1982) (noting that "the use of private right practices . . . in a practical sense, precede market negotiations"); Michael A. Heller, The Tragedy of the Anticommons: Property in the Transition from Marx to Markets, \textit{111} Harv. L. Rev. 621, 623 (1998) (arguing that the existence of property rights alone does not guarantee a functioning market if "initial endowments are created as disaggregated rights rather than as coherent bundles of rights in scarce resources").

\textsuperscript{14} See Harold Demsetz, Toward a Theory of Property Rights, \textit{57} Am. Econ. Rev. (Papers & Proc.) 347, 347 (1967) (observing that "property rights convey the right to benefit or harm oneself or others"); Wesley Newcomb Hohfeld, Some Fundamental Legal Conceptions as Applied in Judicial Reasoning, \textit{23} Yale L.J. 16, 21-22 (1913) (describing property as a complex aggregate of rights, privileges, powers and immunities); A.M. Honore, Ownership, \textit{in} Making Law Bind 161, 165-76 (1987) (discussing the "standard incidents" of ownership, which include the right to possession, the right to use, and the right to transfer); Judith Jarvis Thomson, Trespass and First Property, \textit{in} The Realm of Rights 205, 225 (1990) (describing ownership as "no more than a cluster of claims, privileges and powers").
commentators have observed, in the popular imagination—and even in the imagination of many legal professionals—property means “things.” The equation of any property right with the full spectrum results in the erroneous impression that recognizing the existence of property rights in human tissue is tantamount to endorsing a right to sell any body part, at any time, for cash compensation. Some commentators, for example, have suggested with alarm that if human tissue is regarded as property, organs and other valuable body components might be condemned for public use pursuant to the government’s power of eminent domain. A richer and more complete understanding of property rights, however, emphasizes the tremendous variety of possible property regimes in human biological materials. Property is a flexible concept, not an all-or-nothing one. We need only to examine the range of regimes in real property to confirm the insight that an entity’s property rights relating to a particular item can include the right to use for personal enjoyment but not to convey, or the right to be free from expropriation but not the right to manage use by others.

In fact, the usefulness of property concepts is hard to exaggerate. These concepts provide powerful insights into why and how human biological materials fail to end up in the possession or control of the highest value users. For example, one cause of the shortage of

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144 See Thomas C. Grey, The Disintegration of Property, in Property 69, 69 (J. Roland Pennock & John W. Chapman eds., 1980) (observing that most individuals think that “[t]o own property is to have exclusive control of something—to be able to use it as one wishes, to sell it, give it away, leave it idle, or destroy it”); Joan Williams, The Rhetoric of Property, 83 Iowa L. Rev. 277, 278–79 (1998) (suggesting that the “intuitive image of property as absolute power over things” has not only laypersons but also members of the legal profession “firmly in its grip”).

145 See, e.g., Margaret Jane Radin, Reinterpreting Property 156 (1993) (posing the question: “If we conceive of the body as property, can kidneys be condemned for public use?”).

146 See James V. DeLong, Property Matters: How Property Rights are Under Assault—And Why You Should Care 26 (1997) (“Property consists of anything that can be used, physically or mentally, so as to provide value of some kind.”); cf. Carol M. Rose, Rhetoric and Romance: A Comment on Spouses and Strangers, 82 Geo. L.J. 2409, 2409 (1994) (arguing that the concept of property merits attention as a “flexible and eminently helpful intellectual tool” to discuss the disposition of marital assets at divorce).

147 See Ellickson, supra note 7, at 1363–72 (describing the bundles of rights found in various property regimes).
transplantable organs is that the current regime grants more than
one person a right to veto the donation of the organs of an eligible
brain-dead donor. The presence of multiple negative rights creates
an "anticommons" problem, where more than one entity has the
power to exclude others from the use of a resource, decreasing the
chances that a value-enhancing transfer will occur. Similar "anti-
commons" problems are an issue in the area of biotechnology;
some scholars have expressed fears that the recognition of too
many rights can hinder discoveries.

Property concepts also shed light on how technological innovation leads to the emergence of
new property rights and the modification of existing ones, as rights
to the possession and use of materials that were once medical
waste are transformed from a burden to an asset.

By contrast, it is very difficult, if not impossible, to describe
transfers of human body components accurately without recourse
to fundamental notions of property, even if the transfers in ques-
tion are genuinely gratuitous. For example, to interpret the
sentence, "she agreed to donate her corneas upon her death," re-
quires a comprehension of the meaning of the verb "donate,"
which in turn involves the concept of the right to transfer items. To
describe with any accuracy how tissue moves from its human
sources to transplant recipients or to consumers of biotechnology
products necessitates the invocation of property concepts: Lan-
guage that avoids any reference to matters of property rights will
be limited to statements to the effect that at one time a cornea was
part of the body of one individual and at some later time was in the
body of another. That statement would be true, but it would fail to
convey to its listener any information about how and why the cor-

148 See Heller, supra note 142, at 633-40. Heller describes the phenomenon of the
"anticommons" in post-Soviet Russia, where merchants were unable to rent stores
without obtaining the consent of several entities, each of which possessed the power
to veto the proposed lease transaction. See id. As a result, numerous Moscow store-
fronts remained empty. See id.

149 See Michael Heller & Rebecca Eisenberg, Can Patents Deter Innovation? The
Anticommons in Biomedical Research, 280 Science 698, 698 (1998) (arguing that
biomedical research has been "moving from a commons model toward a privatization
model" and that "[a] proliferation of intellectual property rights upstream may be sti-
fling life-saving innovations further downstream"); see also Merges, supra note 139, at
146-47 (discussing fears among members of the scientific community that the infor-
mal norms that encouraged scientists to share research results are now in peril due to
"creeping propertization").
nea changed location or the motivations and objectives of the persons and institutions involved. Similar examples can be constructed for other forms of human tissue that are separated from their sources and transplanted, transfused, or used in scientific research. Unless transfers of human biological materials are prohibited altogether, concepts of property rights will be necessary for understanding how and why such transfers occur.

The use of the term "market" can cause misunderstandings similar to those engendered by the phrase "property rights." As the twentieth century draws to a close, confidence in the free enterprise system runs high, but enthusiasm for private ordering is tempered by support for the regulation of markets in many goods and services. To state that a market exists in a particular good should not be taken as an assertion that there is—or should be—a free-for-all of unregulated bargains. "Market" simply denotes transfers for consideration, with buyers and sellers engaging in mutually beneficial exchanges. Many markets are, of course, heavily regulated, with the terms and conditions of permissible bargains between ready and willing participants curtailed. The prevalence of these regulated markets illustrates that the choice is not between a completely unrestricted exchange system on the one hand and a total absence of commercial activity in human tissue on the other. The numerous restrictions imposed on many exchanges of human biological materials are not inconsistent with and should not be interpreted to mean that markets in these materials are nonexistent. Additional confusion over the applicability of the term "market" may result from the fact that for many types of human tissue, no market activity exists at the initial stage—for example, when the family of a donor of transplantable organs gives consent for organ removal—but instead develops at a later stage in the chain of distribution. The lack of a market in a particular type of tissue at the time of the initial transfer should not be confused with the lack of a market at a later time.


151 This does not mean, of course, that all regulatory regimes are equally desirable from a normative perspective or that heavily regulated markets in human tissue are inevitable.
Market relationships should not be regarded as necessarily exclusive of considerations of friendship, neighborliness and caring. Over the past three centuries, market institutions have inspired both admiration and suspicion in Western culture. The market has been lauded as a promoter of peace and progress and derided as a coarsening influence, one that encourages its participants to value financial returns at the expense of community and spirit. In assessing the probable impact of market activity in human biological materials, it is important to bear in mind the complicated character of market activity. Market participants frequently have motives that extend beyond simply making money. For example, nurses, teachers, and transplant surgeons accept compensation for work that has significant nonpecuniary meaning to them, and there is no reason to conclude that the payment of compensation adversely affects their ability to care for their patients and educate their students in a respectful, humane fashion. One could reply that compensation in these contexts is accepted because the alternative is to limit professions to the independently wealthy, but that argument fails to address the fact that not only do we not expect surgeons and teachers to work for free, we do not begrudge their efforts to obtain salaries that permit them to live far above subsistence levels. Indeed, requesting compensation commensurate with one's market "worth" can be construed as an expression of self-respect.

Tissue sources who sell human biological materials—either their own or those of their dead family members—may experience their market participation not as degrading or an act of desperation, but as a means of recognizing their own interests while engaging in be-

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12 See Albert O. Hirschman, Rival Views of Market Society 105-39 (1986) (contrasting the idea of "doux commerce," which posits that increases in market activity promote a peaceful society and better manners, with the "self-destruction thesis," which argues that the pursuit of self-interest depletes the moral foundations of society by discouraging cooperation); J.G.A. Pocock, The Mobility of Property and the Rise of Eighteenth-Century Sociology, in Virtue, Commerce and History: Essays on Political Thought and History, Chiefly in the Eighteenth Century 103, 104 (1985) ("In every phase of Western tradition, there is a conception of virtue—Aristotelian, Thomist, neo-Machiavellian or Marxian—to which the spread of exchange relations is seen as presenting a threat. In this perspective those thinkers of the seventeenth through nineteenth centuries who argued on individualist, capitalist or liberal premises that the market economy might benefit and transform human existence appear to be the great creative heretics and dissenters.").
havior that will yield substantial benefits to others. The meaning of a sale of human tissue depends, after all, on the cultural milieu in which it takes place. The vendors of blood who supplied the Mayo Clinic in the 1960s and 1970s were respected as part of a carefully chosen population, in which membership signaled social respectability and responsibility; selling blood in New York in the 1960s, by contrast, indicated low social status and a lack of options for obtaining money.\(^{153}\)

B. The Alleged Perils of Market Discourse

Many who raise concerns about the language of property and markets acknowledge the usefulness of property and market concepts but nevertheless express great concern over the detrimental impact of "commodification rhetoric" upon important values.\(^{154}\) The fears of those who warn of the possible ill effects of market language are hard to allay, for the notion that property and market rhetoric are likely to contribute to a diminished sense of self resonates deeply. Many express sympathy with the idea that an "impoverished reductionism" is a probable consequence of the adoption of a "commodification worldview."\(^{155}\) Such reactions can be viewed as in keeping with the "strong, intuitive resistance" that the law and economics movement has provoked since its inception.\(^{156}\)

\(^{153}\) See Starr, supra note 23, at 257 (noting that the Mayo Clinic blood donor program kept in close contact with its stable and healthy group of suppliers to ensure blood safety); Titmuss, supra note 4, at 113 (describing a newspaper account of a flop-house-like setting of a blood center where "bleary-eyed" paid donors were asked only a few screening questions before giving their blood in return for payment).

\(^{154}\) See, e.g., Radin, supra note 1, at 122 (stating that although "the rhetoric of economics is frequently useful as one among the many ways we can think about relationships and behavior ... something important to humanity is lost if market rhetoric becomes (or is considered to be) the sole rhetoric of human affairs").

\(^{155}\) Marjorie M. Shultz, Questioning Commodification, 85 Cal. L. Rev. 1841, 1860 (1997) (reviewing Margaret Radin, Contested Commodities (1996)).

The conviction that the language of the market can diminish our sense of particularity and uniqueness appears to be rooted in the realization that the language we use affects our perceptions and shapes our ideas about who we are and what is important in our lives. Yet while most would agree with the assertion that “language has real power over the mind that uses it,” it is important to note the paucity of evidence that humans are incapable of recognizing that the language of markets and property cannot possibly encompass the diverse ways in which human components are valued. On the contrary, there are numerous examples of markets in goods that have values not limited to their commercial uses. Regularly traded commodities include not only fungible items such as negotiable instruments and shares of common stock, but also artworks, rare musical instruments, tickets to highly anticipated sporting events, and other things that everyone agrees have non-economic worth to their holders. Experience with exchanges in unique, non-fungible goods fails to indicate that we have reason to conclude that speaking or thinking about human tissue transfers in market terms would oblige us to embrace a monistic valuation of human bodies or to forget that human tissue has noneconomic value. This Article is not suggesting that market language can or should serve as the only language to describe human components.

To conclude that the use of property and market discourse is incompatible with the recognition of other types of values suggests that market and property concepts are so powerful that they will inevitably dominate other modes of discourse. Those who protest that human biological materials cannot be adequately described using such language, however, find this argument compelling. In the words of Richard Gold:

Because I find that the body has traditionally been and continues to be valued in many ways (such as respect, dignity, con-

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157 James Boyd White, The Language of Concepts, in Justice as Translation 27, 28 (1990) (suggesting that “habits of thought and language have tendencies, pressures of their own, that can perhaps be checked or controlled, but certainly ought to be reckoned with . . .”).


HeinOnline -- 86 Va. L. Rev. 207 2000
munity, and sharing) that we do not normally associate with the market, I conclude that the application of property discourse to the body and related materials will lead us to make decisions about these materials based on market norms rather than the systems of meanings that we currently attach to the body and its related materials.159

This statement assumes that the adoption of the habits of thought associated with the market will crowd out all notions of "respect," "dignity," "community," and "sharing." This notion is a curious one, for it implies the existence of a hierarchy of discourses, with noncommercial discourses unable to flourish in the presence of commercial ones. The conviction that market valuations are incompatible with other sorts of valuations runs deep, however. Once it is known that a particular kidney would fetch $20,000 on the open market, it becomes impossible—so the theory goes—to distinguish the kidney from $20,000, for the monetary value must trump the nonmonetary value. The possibility that the realization of a good's nonmonetary value could extinguish our ability to think of it in terms of its market price is never considered. The assumption that market constructs overwhelm nonmarket ones is especially puzzling in light of the skepticism expressed toward what has been labeled the "domino theory"—the notion that commodifying one good will lead to the commodification of others.160

Ultimately, those who conclude that human biological materials should not be discussed in terms of markets and property have two choices. The first is to bring to a halt all activity that is comprehensible only with resort to market and property concepts. Preventing the underlying offensive conduct would eliminate the pressure to refer to body components as property and their transfers as market exchanges. As noted above, no serious proposals to accomplish this goal have been advanced.161 The second option is to continue the current practice of limiting only the applicable discourse itself, while permitting various transfers of property rights and market

159 Gold, supra note 34, at xi–xii.
160 See Radin, supra note 1, at 97. Radin refuses to embrace the "Domino Theory," objecting to the idea that people "naturally" tend to commodify, but at other points in Contested Commodities objects to market language on the ground that the use of such language could make various types of commodification more acceptable. Id.
161 See supra text accompanying notes 133–141.
exchanges to continue. This option has the advantage—if the ability to say one thing and do another can be termed an advantage—of allowing the price system to allocate rights to human biological materials while maintaining the fiction that materials crucial to our sense of self are never assigned a price tag. The downside of adopting this strategy, however, is a greatly reduced capacity to comprehend and monitor what occurs. The toleration of market activity but not market discourse has led to unscrutinized commercial activity, which in turn has resulted in regimes that may fail to reflect collective judgments about how market activity in human biological materials should be regulated.

Moreover, the reluctance to discuss the economic value of human tissue is likely to render effective generosity harder. When potential donors lack information about how the benefits of their donations are distributed, they are hampered in their abilities to fulfill their charitable objectives. Donors who comprehend that their donated biological materials can in effect be resold by intermediary organizations will be more inclined to investigate an organization’s practices, in order to ensure that trusted intermediary nonprofit firms are not capturing a larger share of the available surplus than the donors intend. Avoiding market discourse thus increases the probability that donors of tissue will fail to understand the consequences of their generosity and will be, in effect, misled as to the identities of the beneficiaries of their gratuitous transfers. In short, the individual who makes use of market and property discourse has not committed herself to the view that money is the sole metric by which human worth can or should be valued, nor has she embraced the idea that financial returns are the only consideration that determines how humans order their lives. The invocation of property and market concepts does not entail any specific conclusions about how commerce in human biological materials is best regulated. A willingness to use market and prop-

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162 See Manne, supra note 130, at 228–29 (discussing the difficulty of monitoring the activities of charitable organizations).

163 In addition, widespread recognition of the available economic returns might pique the interest of the attorneys general of the individual states, who are empowered to bring enforcement actions against charitable organizations that mislead contributors. See, e.g., N.Y. Exec. Law § 175 (McKinney 1999); Cal. Gov’t Code § 12598 (West 1999).
erty concepts when applicable represents a far more limited commitment: to analyze and describe what actually occurs and to consider what regimes are both attainable and desirable.

C. Assessing Regimes in Human Biological Materials

Once the idea that markets in human biological materials exist is accepted, the question arises whether there are substantive limits on trade that will serve valuable ends. This is the standard question of regulation in any market. In order for markets to be regulated effectively, however, their operations and impacts must be understood. Without concepts of markets and property, the consequences of existing and potential regimes in human biological materials cannot be evaluated. In other words, failure to assess the operations of markets interferes with an understanding of who benefits, who pays, and who gives. Assessing the benefits (and burdens) created by a sale or donation of human tissue requires an understanding of which entities acquired rights to the material and how such rights were disposed of (and for what payment), information which is impossible to obtain without a comprehension of what markets exist and how they function. Moving from a stance of minimizing or even denying the presence of markets to one of recognizing and studying them is likely to yield more effective regulation.

Comprehension of who stands to gain from a particular regime is especially useful when assessing the conduct and statements of participants in transactions involving human biological materials. This observation does not amount to a claim that the behavior of those who realize economic benefits from their involvement in human tissue transfer is driven solely by economic motivations: Humans are also driven by desires to benefit others\(^\text{164}\) and to achieve professional recognition.\(^\text{165}\) But the drive to maximize profits (in the case

\(^{164}\) See supra note 39 and accompanying text.

\(^{165}\) See Adam Smith, The Theory of Moral Sentiments (D.D. Raphael & A.L. Macfie eds., Liberty Fund 1984) (1790) (describing the pursuit of individual self-interest as a strong but by no means exclusive motivation for human action); Richard H. McAdams, Relative Preferences, 102 Yale L. J. 1 (1992) (exploring manifestations of the desire for superiority relative to others, and arguing that many individuals are in certain contexts more concerned with their comparative position than their absolute one).
of for-profit firms) or the year-end's accounting surplus (in the case of nonprofit organizations) is a powerful motivator, and it should cause no great astonishment to learn that many participants in transactions involving human biological materials argue in favor of rules that coincide with their financial interests. Organ transplant programs lobby for allocation rules that maximize the number of organs they may transplant; fertility clinics vociferously object to increases in the amounts paid to ova providers by their competitors; and biotechnology firms attempt to avoid paying human tissue sources for the raw materials they require to develop products.

Failing to discuss the availability of financial returns will not eliminate the pursuit of financial rewards from transactions in human tissue, but will only render such pursuits less apparent. It is, of course, hardly unheard of for organizations to assert that policies that further their economic interests ought to be adopted not because they would enrich the organization in question, but because of considerations of justice and fairness. Such behavior is part and parcel of the political process, and in the usual course of events the arguments advanced by interested parties are evaluated in the context of their known economic interests. Without market and property concepts, however, the interests of the participants in transactions involving human biological materials will remain opaque, making scrutiny of their preferred regulatory regimes more difficult.

D. Compensation of Tissue Sources

Understanding the operations of markets in human biological materials provides a foundation for addressing the question that lies at the heart of the mislabeled commodification debate: Should human tissue sources or their survivors be eligible for compensation? Since markets obviously exist, preventing payments to sources cannot be justified on the ground that bans or limitations are necessary for the prevention of the commodification of non-marketable goods. It is hard to argue that there is something fundamentally wrong with participating in the market by selling one's own tissue (or that of one's newly deceased relatives) but not with market participation that includes buying tissue derived from others or, in the case of intermediary organizations, both buying and selling the materials of others. It is true that receiving money
as the result of a loved one’s death strikes many as ghoulish, as the sum of money involved can be construed as placing a financial value on the life of the newly departed, but similar hesitations were advanced and surmounted in connection with the establishment of life insurance, a practice that initially provoked condemnation but has come to enjoy broad social acceptance.\textsuperscript{166} One might advocate restricting payments to tissue sources on the theory that uncompensated transfers are superior to bargained-for exchanges, and that even if the \textit{entire} distribution network cannot be based upon altruism, as many links in the chain as possible should be altruistic ones. This Article addresses the issue of the inherent desirability of altruistic actions in Part IV.

That leaves the instrumentalist argument that payments to tissue sources should be restricted because of concerns about harms to safety or possible increases in the cost of medical services. Opponents of payments to tissue sources have expressed three major fears that fall into the category of instrumentalist objections: that tissue sold by donors will prove less safe than donated tissue,\textsuperscript{167} that the prospect of compensation will lead to the exploitation of the poor by the rich by tempting living tissue sources to assume excessive health risks,\textsuperscript{168} and that paying donors will raise the expense of medical services.\textsuperscript{169}

With respect to the first of these objections, there is no evidence that donated human biological materials are \textit{inherently} safer than their paid-for counterparts.\textsuperscript{170} Rather, the relative safety of human

\textsuperscript{166} See Viviana A. Rotman Zelizer, Morals and Markets: The Development of Life Insurance in the United States xi-xiv (1979) (tracing the transformation in attitudes toward life insurance from initial opposition, which resulted “largely from a value system that condemned a strictly financial evaluation of human life” to acceptance, the result of a number of factors including changed attitudes toward risk and speculation).

\textsuperscript{167} See, e.g., Titmuss, supra note 4, at 154–55 (arguing that Great Britain’s reliance on unpaid blood providers resulted in Great Britain’s having a safer blood supply than the United States).


\textsuperscript{169} See infra text at note 174.

\textsuperscript{170} In fact, financially compensated donors comprised two of the safest groups of blood providers in United States history. See Starr, supra note 23, at 256–57 (describing the controversy over whether the United States’ system of blood distribution should be based on a population of volunteer donors). While payment or non-payment of blood sources may, in some instances, serve as a surrogate for the risks
The Market for Human Tissue

biological materials appears to be a function of the population the tissue sources are drawn from and the incentives of participating institutions to ensure product safety.\textsuperscript{171} Although one can imagine situations where the prospect of cash will motivate tissue sources to engage in deception about intravenous drug use or other lifestyle practices that would make their tissue unsalable, relying on a pool of uncompensated donors can pose risks of another sort: Nonprofit firms engaged in blood collection have on occasion hesitated to reject prospective donors who engage in high-risk behaviors or pose potentially embarrassing questions regarding sexual and drug use histories, out of fear of alienating their donor pool.\textsuperscript{172} In any event, to the extent that regulation of payment methods or collection procedures can be shown to reduce risk, appropriate regulations could be adopted.

As for limitations on the permissible risks that tissue sources can undertake for compensation, preventing excessive risktaking by banning payments, instead of through the regulation of collection procedures and required disclosure of relevant hazards, is a curious strategy. When a conclusion is reached that workers are exposing themselves to excessive risks, the usual response is to alter workplace conditions to reduce the risk, not to forbid payments for the work while suggesting that altruistically minded volunteers perform the work for free. Yet this is, in essence, the current policy with respect to many kinds of tissue. Although living sources of valuable materials such as bone marrow and kidneys cannot be paid, they are subjected to societal pressure to donate. Tissue providers might be better served by a system of regulation that allows them to be compensated while affording protections for their health.\textsuperscript{173} Obviously, not every possible procedure would be com-

\textsuperscript{171} See generally Sherry Glied, Markets Matter: U.S. Responses to the HIV Infected Blood Tragedy, 82 Va. L. Rev. 1493 (1996) (describing variations in institutional responses to risks of HIV infection of blood products); Reuben A. Kessel, Transfused Blood, Serum Hepatitis, and the Coase Theorem, 17 J.L. & Econ. 265, 267-72 (1974) (noting that paid blood need not be impaired blood and summarizing evidence that the risk of contracting hepatitis from a blood transfusion varies enormously with the population from which the blood is drawn).

\textsuperscript{172} See Starr, supra note 23, at 274-76.

\textsuperscript{173} Cf. Martha Nussbaum, "Whether From Reason or Prejudice": Taking Money for Bodily Services, 27 J. Legal Stud. 693 (1998) (detailing arguments in support of the
pensable; for instance, it is impossible to imagine agreeing to permit a living donor to sell his heart. But that is a question of regulating permissible collections of tissue, not payments: A living donor will not be permitted to give away his heart, either. Decisions about what types and level of risk may be assumed can be resolved in accordance with societal judgments about what constitutes excessive workplace risktaking.

The claim that payments for human biological materials would represent an additional cost that would be passed on entirely to tissue recipients, thereby increasing the total cost of products and services, is frequently raised in the context of debates over compensation of providers of transplantable organs. This assertion is associated with the mistaken impression that tissue transfers are unaffected by the laws of supply and demand, and that if the amount that a transplant program pays to procure an organ increases by $X$, then the amount the transplant recipient pays for her transplant will increase by precisely $X$. In fact, although the impact of offering financial incentives to human tissue providers in any particular instance is impossible to state with certainty, fundamental analysis of how markets operate suggests that for some kinds of tissue, payments might well result in lower costs to recipients. For example, supporters of payment schemes for human organs have pointed out that the large economic returns generated by organ transplant programs result in part from the shortage of transplantable organs, and that payments to those who have the right to agree to donate the organs could cause an increase in the supply of transplantable organs available. An increase in the size of the organ pool could in turn decrease the costs of transplant procedures, thesis that regulating the working conditions of sex workers is preferable to criminalizing prostitution).

See, e.g., Evans, supra note 65, at 3117 (“Unfortunately, regardless of... to whom they are directed, financial incentives add to total transplantation expenditures.”); Munzer, supra note 30, at 262 (maintaining that schemes to pay organ sources would cause the total costs of transplants to rise); Roger W. Evans, Letter to the Editor, 339 Lancet 185 (1992) (opposing proposals to pay organ donors on the ground that “we should look for methods to reduce rather than increase the cost of transplantation”).

Exactly how large the increase could be is difficult to estimate. For one thing, we do not know the size of the pool of potential organs. See Richard J. Howard, How Can We Increase the Number of Organ and Tissue Donors?, 188 J. Am. C. Surgeons 317, 318 (1999) (reporting that estimates of the number of potential cadaveric organ donors who die each year range from 5,000 to 29,000).
resulting both in more operations and in increased accessibility of medical care for the less affluent.

Even if payments do add to the total cost of transplants, it is far from clear that organ providers should not be compensated. Rather, the inquiry should turn on how the burden of organ procurement ought to be spread among the population. At present, that burden is shouldered by organ donors and their families. In the case of cadaveric donors, families who have just suffered grievous, unanticipated losses are asked to perform acts of selfless generosity. Such requests are, in one sense, peculiar, for social norms dictate that the recently bereaved ought to be the recipients of charity, not its providers. If organ sources were paid, the cost of acquiring transplantable organs could be subsidized by public funds or borne by private insurers and health maintenance organizations. In either case, the burden of acquiring organs would fall on the many rather than the few.

IV. THE LIMITS OF ALTRUISM

There remains the puzzle of the desirability of altruistic transfers. Rules and social norms that restrict—or discourage—humans from collecting money in exchange for their own (or a relative's) tissue are commonly justified on the grounds that gifts of the body are preferable to sales. The conviction that “giving away blood and body tissue rather than selling it is a way to encourage altruism and to affirm social cohesion by linking donors to strangers and donations to the public good” has led to an assumption that com-

176 See, e.g., Epstein, supra note 30, at 260 (“Before the prospect of organ transplantation arose, everyone thought that the bereaved family was in need of special concern and support. ... Unfortunately, the modern ethical approach to organ transplantation works a strange inversion. Those who should be recipients of charity are asked in the name of altruism to sacrifice a second time, often for some nameless person.”).

177 See, e.g., Childress, supra note 50, at 287–95 (asserting that even though payments to the survivors of organ sources are not per se wrongful, increasing the supply of transplantable organs by persuading the survivors to agree to donate is preferable); Edmund D. Pellegrino, Families' Self-interest and the Cadaver's Organs: What Price Consent?, 265 JAMA 1305, 1306 (1991) (“Frustrating as the effort may be, we cannot abandon the effort to increase the supply of organs by education and appeals to altruism.”).

178 Andrews & Nelkin, supra note 5, at 55; see also Marcel Mauss, The Gift: Forms and Functions of Exchange in Archaic Societies 17–45 (rev. ed. 1961) (extolling the
pensating tissue sources is less desirable than persuading them to
give and that purchases are an option to be considered only if the
forces of benevolence fail to yield adequate supplies of needed ma-
terials. But the conclusion that donations are inherently superior
to sales is a peculiar one, for it fails to address the impact of altruis-
ism on the distribution of wealth and overall well-being. In
deciding who ought to be exhorted to give to whom, it is helpful to
ponder the consequences of the expected generosity. Are strug-
gling, indigenous peoples being asked to give to prosperous First
World residents? Are individuals who would have difficulty ob-
taining transplant services due to their inability to pass the “green
screen” subject to pressure to agree to donate their organs? If
payments to cadaveric organ sources or their survivors are prohib-
ited, will the demand for transplantable organs lead to increased
donations from living organ donors, some of whom will suffer ad-
verse health consequences as a result of their generosity?

Altruism is good, the reasoning appears to go, because altruism
begets altruism, and greater amounts of altruism are preferable to
smaller amounts; therefore we should encourage altruistic acts
whenever possible. Constraints on the choices of tissue sources are
sometimes defended on the grounds that, if given the choice, tissue
sources might choose sales over donations, thereby reducing total
generosity. Such an attitude fails to appreciate the complex nature
of altruism. While it is true that cultures that fail to encourage al-
truism have little of it, it is not obvious that altruism invariably
reproduces itself, or that the slightest hint of a market diminishes
the willingness of individuals to make gratuitous transfers. As Al-
bert Hirschman writes:

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importance of uncompensated transfers in the formation of a sense of community, but
emphasizing that cultures in which gift-giving practices play an important role enforce
norms of exchange and reciprocity).

17 See, e.g., Childress, supra note 50, at 299–300.
18 See supra text accompanying notes 117–121.
19 See supra text accompanying note 77.
20 See Increased Number of Living Adult Liver Donors Fueled By Growing Donor
Shortage, Surgeons Say, Transplant News, Sept. 24, 1999, available in Westlaw All-
News Database (reporting that although “ten years ago, virtually no surgeon in the
country would have considered allowing an adult to donate part of her liver to an-
other adult” due to the “complexity of the procedure and the sizable risks to the
donor,” the critical shortage of transplantable livers has spurred transplant programs
“to embrace the technique as a desperate alternative to waiting for cadaver organs”).
21 See Frank, supra note 39, at 40.
Love, benevolence and civic spirit neither are scarce factors in fixed supply nor do they act like skills and abilities that improve and expand more or less indefinitely with practice. Rather, they exhibit a complex, composite behavior: they atrophy when not adequately practiced and appealed to... yet will once again make themselves scarce when preached and relied on to excess.¹⁴

Exactly how beneficence and the pursuit of self-interest "expand" and "atrophy" is largely a matter of conjecture. Notwithstanding the high level of interest in the phenomenon of altruism, little is as yet understood about the causes of the formation of altruistic behavior.¹⁵ Most people's intuition is that cultural norms and pressures exert a powerful influence on the amount and type of altruistic conduct, but generosity is hard to calibrate. Efforts to stimulate altruistic transfers of human biological materials have been notable for their failure: The percentage of the population that regularly donates blood remains low and laws requiring hospital personnel to request surviving relatives of eligible cadavers to consent to donate organs have not substantially increased the supply of organs for transplantation.¹⁶

It is uncertain whether the existence of payments will cause individuals who would have acted altruistically to instead opt to receive compensation.¹⁷ But if sources actually prefer to be paid, why should legal rules and social norms act to foreclose their pre-

¹⁴ Hirschman, supra note 152, at 157.
¹⁵ As Oded Stark and Ita Falk observe, "[T]he questions of how altruism is instilled and what explains its evolution lie at the very frontier of research on preference formation and transfer behavior." Oded Stark & Ita Falk, Transfers, Empathy Formation, and Reverse Transfers, 88 Am. Econ. Rev. (Papers & Proc.) 271, 271 (1998); see also Jane Mansbridge, Starting With Nothing: On the Impossibility of Grounding Norms Solely in Self-interest, in Economics, Values and Organizations, supra note 135, at 153 ("Empirical studies of the innate human tendency to make the good of others our own are in their infancy, but we may expect experimental and developmental psychology, neuroscience and evolutionary biology to produce more evidence on this score in the near future.").
¹⁷ See William M. Landes & Richard A. Posner, Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism, 7 J. Legal Stud. 83, 95 (1978) (examining circumstances under which making compensation available may have the effect of decreasing uncompensated transfers).
ferred option? To argue that the very area in which people are least likely to want to give is the area in which they should be denied the freedom to choose between selling and giving seems perverse.

Opponents of the idea of payments to tissue sources have yet to explain why the constriction of individual choice is an acceptable strategy for increasing the level of gratuitous transfers, for it is not immediately apparent why it is better to reach a collective decision to ban or discourage compensated transfers instead of permitting individuals to choose between beneficence and the pursuit of self-interest. Each individual has to strike a balance between generosity and self-abnegation, and between prudent management of her own affairs and callous selfishness. Altruistic projects are an important component of nearly every person's life, helping to shape both her character and her relationships with friends, family, community and the larger world. At the same time, excessive solicitousness toward the needs and wants of others can interfere with a person's development of her unique talents and capabilities, resulting in a failure to live her own life fully. The capacity to engage in unlimited altruism is also constrained by finite resources and time: Even a person who resolved to abandon her own self-interest completely and devote her life to the furtherance of the welfare of others would be forced to select among competing altruistic projects.

In the realms of money and time, individuals are permitted wide latitude to decide how to balance self-interest and beneficence. They can seek to help others, pursue their self-interest, or try to combine the two. For example, a professional can choose to perform work for a charitable organization for the full market value of her services, for a reduced fee or for free. While the government may attempt to encourage generosity (for example, by permitting

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188 This does not mean that each individual starts out with established preferences for self-interested and altruistic behavior. Engaging in generous behavior can modify an individual's preferences, fueling other acts of altruism. Similarly, self-interest can serve to reinforce itself. My point is only that each individual's life features both types of behavior, and that choices are necessary.


190 See Jean Hampton, Selflessness and the Loss of Self, in Altruism 135, 136 (Ellen Frankel Paul et al. eds., 1993).
tax deductions for charitable contributions), the result of such poli-
cies is to expand the choices available, not to constrict them. Donors of money or time are not confronted with the option of
donating $1,000 to hunger relief or donating nothing, or volunteer-
ing at the local shelter for 100 hours per year or not at all, in the
hope that they will prefer a large donation to not giving.

Restrictions on payments to human tissue sources, by contrast,
are engineered for the purpose of limiting their options. Conse-
quently, a potential donor of tissue may be presented with only two
choices, both of which she may find unpalatable: for example, to
give life-saving bone marrow without receiving compensation, or to
refuse to give bone marrow at all, thereby leaving a desperately ill
patient bereft of life-saving treatment. The life circumstances of a
potential bone marrow donor may cause her to hesitate to undergo
the physically grueling marrow collection: She may be unable to af-
ford to take time off from her job to recover from the procedure.  

Banning compensation for providers of bone marrow has, then, the
potential outcome of obliging eligible tissue sources to choose be-
tween giving too much or too little. Similarly, the family of a newly
deceased organ source might want to make the organs available for
transplant but also collect some money for the educational ex-
penses of the children who have suffered the (untimely and often
financially devastating) loss of a parent. If tissue sales were permit-
ted, then sources would not face a constrained set of options, but
would have the ability to select their desired amount of altruism.

The unconsidered assumption that gratuitous transfers of human
tissue are preferable to bargained-for exchanges deserves careful
scrutiny. It is impossible to imagine that proponents of altruism be-
lieve that every human who harbors tissue of potential use to
others ought to volunteer or consent to donation. But if only some
are expected to perform acts of generosity, how do we decide who
should give and how much? In order to assess the desirability of
particular altruistic acts, we will almost certainly want to under-
stand their distributional impact, for however laudable altruism

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191 Bone marrow from donors is harvested from the hip bones by multiple aspirates
using a specialized needle. The procedure is normally performed under general anes-
thesia, and requires a hospitalization of about 48 hours, followed by a week or two of
discomfort. See Richard L. Soutar & Derek J. King, Bone Marrow Transplantation,
may be on an abstract level, in a given instance we need to inquire about who is being asked or encouraged to benefit whom. A regime in which altruistically motivated residents of a South Atlantic island are encouraged to donate blood, with the benefits of their acts accruing to a group of more affluent people thousands of miles away, might give even the most enthusiastic booster of benevolence pause.

From all accounts, we are in the beginning stages of a revolution in medical knowledge and technology, a revolution that enables the components of and information derived from one individual's body to render life-saving and health-saving assistance to others. If humans are going to be of such enormous use to one another, it makes sense to try to address the questions of how duties, opportunities, and rights are to be allocated and what varieties and quantities of altruistic behavior will be solicited from members of the population. Rules designed to increase altruism are justified on the grounds that greater generosity and less self-interested behavior must be desirable, but it is far from obvious that in all circumstances the uncompensated transfer is superior to the compensated one. To give but one example, it is far from obvious that obtaining transplantable organs from altruistic living donors, who must agree to assume the risks of invasive surgery in order to donate, is superior to paying the family of a cadaveric organ provider. The gift of the living organ donor is a very special one, but the benefits of altruism may not counterbalance the health risks and losses of opportunities incurred by the donor. The altruism of living donors, while emotionally affecting, may be unnecessary.

Before heaping praise on the idea that every transfer of human tissue from its source should be, if possible, uncompensated, it is helpful to think about the impact of not offering payment on the tissue source or her survivors. Moreover, even if a consensus is reached that altruistically motivated gifts are better than sales, that conclusion in no way supports the notion that the best strategy for encouraging gifts is to restrict sales. Arguments that payments to tissue sources will result in the diminution of altruism are tantamount to admissions that tissue sources are being subjected to societal pressure to give away something they might rather sell, unlike the purveyors of food, medicine, and other life-sustaining goods.
CONCLUSION

Despite all the misgivings expressed about commerce in human biological materials, no serious proposals to remove such materials from the market realm have been advanced. The reasons for this conspicuous absence are not hard to fathom: Whatever sentiments of horror the thought of trafficking in human flesh may engender, the benefits of commercial activity in human tissue are enormous. Commerce in human tissue makes possible a wide range of life-saving and health-saving services, and bringing market activity in human biological materials to a halt would in all probability have devastating consequences for numerous individuals, including patients in need of organ transplants and consumers of fertility services.

However appealing the idea of distribution networks composed solely of gratuitous transfers, the truth is that networks based on the abnegation of self-interest would prove immensely hard to establish and operate. Not every individual or institution in possession of useful human tissue is willing to give it away. Moreover, even if scarcity of altruistic motivation was not a problem, we are still left with the formidable logistical challenges of coordinating a number of uncompensated transfers. In sum, it is not realistic to conclude that if markets in human tissue were eliminated, the current quantity of life-saving and health-enhancing services would be maintained.

Examined from one perspective, the current system, with its incomplete acknowledgment of the extent of commercial exchanges involving human biological materials, represents the best of both worlds. A large amount of tissue finds its way to recipients who reap substantial benefits, but the idea that human body parts are unmodified—that the invaluable components that make up each human are rarely translated into the cold language of economic value—remains in large part undisturbed. Those who wish to may continue to believe that the forces of generosity and benevolence are the most significant factors in the distribution of human biological materials and that maximum benefits can be achieved without harnessing pecuniary motivations or putting a price on the spare parts of human beings.
Following this path may salve feelings and preserve the image of the noncommodified human body. But the reluctance to use the tools of market analysis inflicts substantial costs. The avoidance of market and property language makes it difficult to grasp what benefits are available and how they are distributed, thereby interfering with efforts to design regimes in human biological materials that promote normative goals. If commercial activity in human biological materials is truly objectionable, then the debate needs to be expanded far beyond simple discussions of which individuals and organizations will be permitted to share in the financial returns available, and instead focus on the establishment of completely noncommercial distribution systems. On the other hand, if the existence of commerce is to continue, then attention should be concentrated on regulating the operation of markets.

In designing regulatory regimes, the issue of whether tissue sources should be compensated will in all probability continue to provoke impassioned debate. To date, the arguments against compensation have suffered from serious flaws. Some treat the question as one of whether human biological materials should be commodified through the creation of a market, thus failing to recognize that markets for useful materials are already in existence. Others raise instrumentalist concerns, but the problems identified could in all probability be addressed through the effective regulation of compensation arrangements and do not furnish compelling arguments for favoring uncompensated transfers over compensated ones. Assertions that payments to tissue sources should be restricted in order to encourage altruism fail to take into account the burdens of altruistic behavior. Before we conclude that donative transfers are always superior to bargained-for exchanges, we need to assess the probable distributional consequences of requiring or encouraging tissue sources to forego financial compensation. Even if altruism is inherently desirable it has yet to be explained why efforts to increase the incidence of altruism should take the form of restricting the range of available choices. Arguing that altruism is preferable to market behavior fails to provide a satisfactory response, for the usual rule is to permit individuals to choose between compensated transfers and uncompensated gifts.

Due to dramatic advances in medical technology and scientific knowledge, the potential worth—both economic and non-
economic—of the body of one individual to others has never been higher. Moreover, a number of indicators suggest that the range of potential uses of human biological materials will continue to increase, lending greater urgency to the questions of who will benefit from these advances and under what terms. The revolution in science and medicine has created opportunities both for the realization of financial returns and for acts of great generosity. The challenge that lies ahead is to decide how to allocate the benefits and burdens made possible by applications of this new technology. Arriving at acceptable answers requires a careful assessment of attitudes toward both market participation and altruistic behavior.