THE LEGAL STATUS OF HUMAN MATERIALS

*Philippe Ducor**

TABLE OF CONTENTS

---

* J.S.M., Stanford Law School, 1994; J.D., University of Geneva, Switzerland, 1991; M.D., University of Geneva, Switzerland, 1985. This work was prepared under a grant from the Swiss National Science Foundation. Support was also provided by the Academic Society of Geneva.

[I]n the case of a human being no confidence must be placed even in death.[1]

I. INTRODUCTION

How should we define the brain-dead body of a pregnant woman, lying in an intensive care unit? Is it a corpse ready for organ harvesting, or a person deserving constitutional rights and respect? Or does it belong to still another category?

In the past few decades, modern medical technology has presented numerous examples, similar to the one mentioned above. Technology transforms formerly unthinkable situations into reality, challenging the most fundamental legal principles. Because it applies primarily to the human body, medical technology challenges the legal principles related to the body and its close cousin, the person. Moreover, current medical technology allows for the transfer and processing of body parts and other products of human origin in a manner typical of banal commodities. Should the rules of general property law relevant to commodities be applied to these human materials? Does their human origin warrant different rules in all or just some cases? The complex relationship between the person and his or her body must be scrutinized not only for purely academic or philosophical interest, but for practical reasons as well.

This Article attempts to determine the relevant legal categories for human materials, including human beings. It reviews existing United States case law as

1. 2 PLINY, NATURAL HISTORY 623 (H. Rackham trans., 1942).

well as the viewpoints of legal scholars. It also takes relevant scientific or medical realities into account whenever possible. In contrast to more traditional and focused studies, this work covers a broad field, and therefore cannot be exhaustive. Its purpose is to provide a global account of the legal landscape of human materials and to place them in perspective vis-a-vis one another.

At first blush, the discussion of the differences between subjects and objects, followed by the distinctions drawn between the various objects of human origin, may appear inconsistent. The example of the brain-dead pregnant woman shows, however, that the first distinction is not always evident. Thus, the boundaries between subjects and objects must initially be defined if one seeks to distinguish between all objects of human origin.

Due to the continental origin of its author, this Article is influenced by civil law and Roman property law. Although the issues and solutions presented by Anglo-American and civil law systems are similar, their means of solving the problem are somewhat different. The common law addresses questions in a flexible and pragmatic case-by-case manner. As a result, the common law essentially tackles problems when they arise. Much of the American doctrine regarding the legal status of human materials surfaced after *Moore v. Regents of the University of California*,[2] although the issue received some prior treatment.[3] In contrast, civil law is typically more systematic and theoretical. Accordingly, civil law legal scholars often address problems more quickly.[4] Significant legal doctrines concerning the human body were published as early as 1932 in France,[5] decades before our modern medical advances.

The table of contents may appear imposing at first glance. It only reflects, however, a systematic approach of organizing the legal doctrine. The table includes all human entities and attempts to classify them into sensible categories. The main distinctions are made between subjects and objects of rights[6] and the various objects of human origin.[7]

---

2. Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied*, 111 S. Ct. 1388 (1991). This famous case deals with human tissue ownership and has received treatment in several journals. *See, e.g.*, Helen R. Bergman, Comment, *Moore v. Regents of the University of California*, 18 AM. J.L. & MED. 127 (1992); Laura M. Ivey, Comment, *Moore v. Regents of the University of California: Insufficient Protection of Patient's Rights in the Biotechnological Market*, 25 GA. L. REV. 489 (1991).

3. RUSSELL SCOTT, THE BODY AS PROPERTY 4 (1981). Although not actually legal doctrine, his book describes in detail the problem as it arises in practice.

4. This does not mean that the civil law approach yields better solutions, because it often lacks practical tests.

5. JOSSERAND, LE CORPS HUMAIN DANS LE COMMERCE JURIDIQUE, CH DALLOZ, (1932); JACK LES CONVENTIONS RELATIVES À LA PERSONNE PHYSIQUE, REVUE CRITIQUE DE LÉGISLATION ET DE JURISPRUDENCE (1933); *see* SARVOLAT LE PRINCIPE DE L'ALIÉNABILITÉ DU CORPS HUMAIN EN DROIT CIVIL, POITIERS (1951); DOMAGES LE CORPS HUMAIN DANS LE COMMERCE JURIDIQUE, THÈSE (Paris 1956).

6. *See infra* Part II.

7. *See infra* Part IV.

Part II of this Article discusses the fundamental distinction between subjects and objects of rights.[8] It describes how the equation "human being equals subject" is susceptible to challenge. The section also discusses the status of entities located at the margins of the human person: embryos and fetuses, anencephalic infants, pregnant dead bodies, dead bodies, and body parts. Part III describes the various transitions human materials can undergo, from subject to object, and inversely, from object to subject.[9] After a factual description of these transitions, the section examines the principles governing the voluntary transition from subject to object. Part IV describes the various objects of human origin, according to their natural and legal features.[10] Rather than focusing on the entire bundle of property rights, it examines various relevant sticks of the bundle, mostly disposition and its modalities—that is, total inalienability, market-inalienability, free marketability, and exclusion.

Before proceeding further with these issues, it is first necessary to define several terms, which are used in this work. For purposes of this Article, the term "human materials" should be construed as including all materials of human origin, biologically living or not living, including persons, dead bodies, embryos and fetuses, organs, germinal and somatic cells, hair, skeletons, DNA, chemicals, and other substances. As described in Part IV, the qualification of "human origin" becomes less important when one approaches the common denominator of all life forms—nucleic acids and other molecular compounds. The terms "subject of rights" and "person" will be used interchangeably to describe the entity entitled to the constitutional protections afforded to persons. The terms "object of rights" and "thing" will be used as synonyms. Finally, the term "inalienable" means nontransferable, and the term "market-inalienable" means not capable of being sold.[11]

II. SUBJECT OF RIGHTS VERSUS OBJECT OF RIGHTS

A. *A Fundamental Distinction*

The distinction between subject of rights and object of rights underlies the existence of and is a prerequisite to every legal system. Legal systems are designed exclusively by and for their citizens, who decide the status of all entities present in their society through their laws.

The legal definition of a person is a difficult concept. According to contemporary thought on personhood, a "'person' is often to mean [sic] a human being, but the technical legal meaning of a 'person' is a subject of legal rights and duties."[12] In practice, the rights and duties vary widely between the different categories of persons. This is true in all areas of the law, including constitutional

---

8. *See infra* Part II.
9. *See infra* Part III.
10. *See infra* Part IV.
11. Margaret J. Radin coined the term "market-inalienability." Margaret J. Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849, 1850 (1987).
12. JOHN C. GRAY, THE NATURE AND THE SOURCES OF THE LAW 27 (MacMillan 1909).

law. For example, children, prisoners, and incompetent persons are people with different bundles of constitutional rights.[13] These unavoidable differences arise from the very characteristics of these persons.[14] The United States Supreme Court clearly stated children were persons, but refused to hold all constitutional rights apply to children as they apply to adults.[15] Prisoners are persons, although they are stripped of certain constitutional rights, such as liberty of movement. Therefore, even the notion of a "constitutional person" is uncertain. All persons certainly have, however, a minimum bundle of constitutional rights, which can never be suppressed without challenging the person's very dignity and existence. The content of this "hard nucleus" of constitutional rights in a given legal system at a given time is very stable. As the result of an "all-or-nothing" rule, when a legal entity is granted the status of person, all these rights fall within such a status. Although no U.S. case law exists on the equivalent of the hard nucleus, arguably it would include the right to due process,[16] the right to own property,[17] the right to bodily integrity,[18] the right to live,[19] and the right not to be owned.[20] This Author's proposal is to use the content of the hard nucleus to define the legal person. Every entity whose rights fall short of this hard nucleus would not be a person, or subject, but rather an object.[21]

---

13. *See, e.g.*, Cruzan v. Director of Mo. Dep't, 497 U.S. 261, 262 (1990) (noting an incompetent person in a vegetative state does not have the same constitutional rights as a competent person); Thompson v. Oklahoma, 487 U.S. 815 (1988):

> [T]he law must often adjust the manner in which it affords rights to those whose status renders them unable to exercise choice freely and rationally. Children, the insane, and those who are irreversibly ill with loss of brain function, for instance, all retain "rights," to be sure, acting with the best interests of their principals in mind.

Id. at 825. For the purpose of the definition of legal personhood, this Article focuses on rights rather than on duties. For example, newborns or incompetents have only minimal duties, but substantial rights.

14. *See In re* Gault, 387 U.S. 1 (1967). Modern legal systems tend to accept only unavoidable differences, which are intimately related to the characteristics of the persons. Limitations in the constitutional rights of children are related to their intellectual development. Similarly, prisoners by their very nature lack the liberty of movement. Antidiscriminatory statutes forbid avoidable differences related only superficially to the characteristics of the person. *See also* Sandin v. Conner, 115 S. Ct. 2293, 2301 (1995) (stating while prisoners do not shed all constitutional rights at the prison gate, "[l]awful incarceration brings about the necessary withdrawl or limitation of many privileges and rights, a retraction justified by the considerations underlying our penal system.") (citations omitted).

15. *In re* Gault, 387 U.S. at 14 (1967) ("[I]n practically all jurisdictions, there are rights granted to adults which are withheld from juveniles.").

16. U.S. CONST. amend XIV, § 1.

17. *Id.*

18. *Id.*

19. *Id.*

20. U.S. CONST. amend XIII, § 1.

21. This theory applies only to natural, living subjects. Corporations and other legal persons have other criteria. As noted previously, the differences in the treatment of children or prisoners are unavoidable because their treatment is related to the very characteristics which make them different.

Legal systems are neither well-suited nor sympathetic to proposed modifications of the hard nucleus defining subjects of rights because it would require drastic changes in the systems. For purposes of this Article, everything short of a person will be considered an object. Any other solution makes the distinction between subjects and objects impossible and would require an overhaul of the legal system. Therefore, any interim personal status—including, for example, the embryonic or fetal stage—modifying the nucleus of the person must be viewed with suspicion.[22]

Conversely, the legal status of objects of rights is much more flexible because it encompasses all entities other than subjects. Despite their diverse natures, these entities retain their status as objects. For this reason, the status of objects appears better suited to include human materials not granted the status of subjects. This holds true even for entities deserving special status because many "objects" are also deserving of constitutional protection. Moreover, this solution does not require drastic changes in the legal system.

B. *The Paradigmatic Subject of Rights: The Human Being*

The human being is the paradigmatic subject of rights. This statement seems obvious because all human beings in the Western World have been granted a legal personality for more than a century without regard to their age, physical or intellectual features, or any other characteristic.[23] In other words, their status as human beings is sufficient. The distinction between subject of rights and object of rights is contingent, however, on the prevailing values in a society at a given time. Therefore, in order to appreciate the current truism "human being equals person," one must examine its evolution in the dynamic flow of history.[24]

1. *All Human Beings are Persons: A Current Truth Denied in the Past*

History is replete with examples of humans not afforded the rights or status of persons. Human "monsters" were not considered persons in Rome and in the

---

22. The Tennessee Supreme Court adopted this principle as the solution for frozen embryos in *Davis v. Davis*, 842 S.W.2d 588 (Tenn. 1992) (holding preembryos cannot be considered persons under Tennessee law); *see infra* text accompanying notes 93-99.

23. The U.S. Supreme Court has held children are constitutional persons. Levy v. Louisiana, 391 U.S. 68 (1968); *In re* Gault, 387 U.S. 1 (1967). The Swiss civil code states: personalty begins with the completed birth of a live child; it ends with death. Code Civil [C. civ.] art. 31 (Switz.).

24. "In Roman law, persona came to mean simply an entity possessing legal rights and duties. Today it commonly signifies any human being." Margaret J. Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 962 (1982).

Middle Ages[25] because of the supposed bestiality of the mother.[26] This belief lasted as late as the end of the nineteenth century.[27] Similarly, until 1854, France had a "civil death" institution, which removed the status of subject of rights from persons convicted of infamous crimes and religious people who pronounced perpetual vows.[28] Slaves were not subjects of rights in Rome and in the Western World until the second half of the nineteenth century.[29] Moreover, when Spanish conquerors came to America, they did not recognize the "wild populations" they encountered. At common law, a wife was technically the property of her husband.[30] These examples show that the status of subject of rights has been granted to an increasing number of entities during the course of human history, reaching a common denominator in the human being as a species. This trend may continue in the future.[31]

2. *Only Human Beings Are Persons: A Current Truth Which May Be Denied in the Future*[32]

Recent advances in biotechnology have made genetic and embryonic chimeras[33] a reality. Accordingly, progress has blurred the lines between animal

---

25. Paulus, D. 1, 5, 14. "Non sunt liberi, qui contra forman humani generis converso more procreantur: veluti si mulier monstrosum aliquid aut prodigiosum enixa sit." Creatures born unnaturally and without human form do not count as children, for example when a woman gives birth to a monster (approximate translation by author). *See* Bruno Schmidlin, 1 Droit Prive Romain, Payot Lausanne 73 (1984).

26. Paulus, *supra* note 25.

27. XAVIER LABBEE, CONDITION JURIDIQUE DU CORPS HUMAIN AVANT LA NAISSANCE ET APRES LA MORT 34, 50 (1990) (quoting Esbach, *Note sur les Pretendus Monstres*, REVUE DE LEGISLATION 167 (1882)).

28. *Id.* The "civil death" must be distinguished from its modern equivalent which means the incapacity to exercise the rights attached to persons, but not the abolition of the status of person. The modern equivalent applies to the insane or prisoners. Interestingly, France abolished civil death in 1854, not long after the constitution of 1848 abolished slavery in France.

29. In the United States, slavery was formally abolished following the Civil War. U.S. CONST. amend XIII.

30. Tinker v. Colwell, 193 U.S. 473, 485 (1904).

31. There are also examples demonstrating the converse: a nonhuman entity granted the status of subject of rights. In 1925, the British Privy Council declared an Indian idol to have the status of a legal person. Pramatha Nack Mullick v. Pradyumna Kumar Mullick, 52 I.A. 245 (P.C. 1925). The current practice of forfeiture in the United States is another example.

32. The Corporation was granted the status of a legal person independent of any physical body in order to own church assets. The same mechanism occurred later with commercial corporations and other entities, which were created to boost the development of capitalism by allowing the separation of private and corporate assets. This Article does not discuss these kinds of legal persons, which obviously do not have rights related to bodily integrity because such constitutional rights are not relevant in this context.

33. STEDMAN'S MEDICAL DICTIONARY 288 (25th ed. 1990) (defining chimera as an "individual who has received a transplant of genetically and immunologically different tissue, such as bone marrow"). The term is also used in experimental embryology "produced by grafting an embryonic part of one animal onto the embryo of another, either of another species."

species.[34] Although it might appear surreal, the creation of a humanoid species will one day be a likely possibility. Of course, questions arise regarding the legal status of such creatures. Legal scholars have only started addressing this problem.[35] Another problematic hypothetical involves isolated human brain preparation.[36] For Tristram Engelhart, the physician and philosopher who believes the body is more incidental than essential, such an entity should be granted personhood.[37] Joseph Fletcher's fifteen criteria for humanness lead to the same conclusion.[38] The legal status of an extraterrestrial creature also poses a problem. Would we place "it" in a zoo or execute contracts with "it"? Would our decision depend on its level of intelligence? How could such a definition of personhood be reconciled with the status of personhood currently afforded to intellectually impaired humans? What is the appropriate status of trained dolphins, whales, and chimpanzees?

Another challenging issue that will yield further debate is artificial intelligence.[39] One can imagine a "brain prosthesis" operating to compensate a traumatized brain. Even if such interventions did not affect human beings currently afforded personhood, such as demented or anencephalic persons, they would still be problematic in the case of brain-dead individuals who are not legal persons. Would such a prosthesis legally resuscitate them? The only plausible conclusion at the present is that nonhuman intelligence, comparable in character to human intelligence, would challenge the current legal belief that only humans are persons.

Questions regarding the nature of subjects of rights are not limited to historical studies or future speculation. If the principle of granting personhood to

---

34. Biotechnology has already yielded a sheep-goat chimera. *See* Jean-Christophe Galloux, *Vers la Brevetabilité des Animaux Chimères en Droit Français*, LA SEMAINE JURIDIQUE, Feb. 14, 1990, at 3430. Moreover, much of the thriving biotechnology industry is based on making bacterial chimerae.

35. *See, e.g.*, Michael D. Rivard, *Toward a General Theory of Constitutional Personhood: A Theory of Constitutional Personhood for Transgenic Humanoid Species*, 39 UCLA L. REV. 1425 (1992).

36. *See, e.g.*, June Mary Zeka Madiski, *Nutrition and Hydration Under Ohio's DPAH: Judicial Misconstruction Threatens the Right to Choose Death with Dignity*, 38 CLEV. ST. L. REV. 279, 293-94 (1990). The image of a locked-in person terminally affected by amyotrophic lateral sclerosis creates an impression analogous to that of an isolated brain preparation. At least in this author's view, the overwhelming intuitive feeling is that they are persons.

37. *See* UNITED STATES OFFICE OF TECHNOLOGY ASSESMENT, NEW DEVELPOMENTS IN BIOTECHNOLOGY: OWNERSHIP OF HUMAN TISSUES AND CELLS 132 (1987); *see also* Thomas H. Murray, *On the Human Body as Property: The Meaning of Embodiment, Markets, and the Meaning of Strangers*, 20 J. LEGAL REFORM 1055, 1066-68 (1987) (concluding the body should legally remain "quasi property" as opposed to ordinary commodity property).

38. Joseph Fletcher's criteria are: minimum intelligence, self-awareness, self-control, sense of time, sense of futurity, sense of the past, capability to relate to others, concern for others, communication, control of existence, curiosity, change and changeability, balance of rationality and feelings, idiosyncrasy, and neocortical function. JOSEPH FLETCHER, HUMANHOOD: ESSAYS IN BIOMEDICAL ETHICS 12-16 (1979).

39. *See* Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 N.C. L. REV. 1231 (1992).

only humans is presently settled, defining the moment when personhood begins and ends becomes more challenging. The current debates about fetal rights and the definition of death are in essence debates over granting or denying the quality of subject of rights to fetuses, dying persons, and dead bodies.

C. *The Boundaries of the Subject of Rights*

1. *Embryos and Fetuses in the Womb*

Traditionally, both Anglo-American and civil law systems have failed to recognize either the embryo or fetus as a subject, and thus, have denied both rights as a person independent from the mother.[40] The only exceptions are specific rights granted to embryos or fetuses conditioned on live birth.[41] These rights typically concern the right to succeed and inherit.[42] The purpose behind recognizing these future interests is to ensure unborn children are not inadvertently omitted from their parent's will.[43]

Criminal abortion laws, generally proscribing abortion or its attempt at any time during pregnancy except when necessary to preserve the pregnant woman's life, are not of ancient or even common law origin.[44] Under common law, however, a third party could be charged with murder if the fetus was born alive, but subsequently died from the inflicted injuries.[45] Many American jurisdictions now recognize third party tort actions for prenatal injuries if the child survives the birth.[46] Civil law systems do not have, however, any equivalent provisions in either penal or tort law and instead consider harm to the unborn as harm to the mother.[47]

The rationale behind these property, tort, and penal law solutions is reasonable provided the rights afforded to the embryo or fetus are contingent upon a successful birth. Nevertheless, the sum of rights current law affords embryos and fetuses acknowledges full personhood, especially considering the rights are contingent upon live birth. Most Western legal systems have, however, legalized abortion during the early and middle stages of pregnancy, recognizing embryos and fetuses as objects, rather than subjects, of rights. As such, embryos and fetuses do not enjoy the hard nucleus of constitutional rights.

---

40. *See* Roe v. Wade, 410 U.S. 113, 158 (1973) ("[t]he word 'person,' as used in the Fourteenth Amendment, does not include the unborn.")

41. *Id.* at 161-62; *see also* Planned Parenthood v. Casey, 505 U.S. 833, 846 (1992) (holding a state has power to restrict abortions after the fetus's viability).

42. Roe v. Wade, 410 U.S. at 129.

43. *Id.; see* W. PAGE ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 55 (5th ed. 1984).

44. Roe v. Wade, 410 U.S. at 129.

45. *See, e.g.*, Clarke v. State, 23 So. 671, 674 (Ala. 1898).

46. Some jurisdictions even recognize injuries inflicted to the plaintiff's mother prior to conception. *See, e.g.*, Renslow v. Mennonite Hosp., 367 N.E.2d 1250, 1255 (Ill. 1977).

47. *Id.*

Accordingly, Xavier Labbee concludes embryos and fetuses are not persons under current French law.[48] This assertion tacitly implies the protection of the embryo or fetus is sufficiently insured through the protection of the mother, assuming the mother and fetus have coinciding interests. For example, the French law on human experimentation views such situations as involving only one person. There is some enhanced protection of the embryo or the fetus compared to other parts of the mother; for example the "Comité National d'Ethique," a consultative body, recommended a ban on human experimentation *in utero*.[49] Statutes outlawing third trimester abortions are another example.[50] Despite these enhanced protections, the rights acquired by the fetus become generally effective only after its birth, when it becomes a person and loses by the same token its quality as a fetus.

Until recently, "except in narrowly defined situations and except when the rights are contingent upon live birth," U.S. law did not afford legal rights to fetuses.[51] Several state legislatures now define murder or homicide to include the killing of a fetus,[52] and some allow wrongful death actions for a stillbirth, renouncing the live-birth requirement.[53] The rationale behind such statutes includes better protection for pregnant women and expecting fathers.[54] There is no convincing evidence, however, that such statutes actually provide better protection than that provided by existing tort or penal law.[55] These laws create the potential for conflicts of interest between mothers and fetuses.[56] Several courts have held the interest of an unborn, but viable fetus, can outweigh the mother's right to abort.[57] States challenge the mother's consent by raising a compelling state interest.[58] These efforts dangerously threaten the mother's rights of privacy

---

48. LABBEE, *supra* note 27, at 165.

49. Conseil d'Etat, De l'Ethique au Droit, La Documentation Française 4855 (1988).

50. *See, e.g.*, IDAHO CODE § 18-608(3) (1987) (outlawing third trimester abortions unless necessary to preserve the life of the mother or if the abortion was not performed, the "pregnancy would terminate in birth or delivery of a fetus unable to survive"); S.C. CODE ANN. § 44-41-20 (Law. Co-op. 1985) (outlawing third trimester abortions unless necessary to preserve the life or health of the woman).

51. Roe v. Wade, 410 U.S. 113, 161 (1973).

52. Although statutes do not always precisely state the stage of gestation at which prosecution becomes possible, the stage of viability has generally been retained. Lori B. Andrews, *The Legal Status of the Embryo*, 32 LOY. L. REV. 357, 373 (1986).

53. These statutes have been generally opposed by commentators. *See, e.g.*, William J. Maledon, *The Law and the Unborn Child: The Legal and Logical Inconsistencies*, 46 NOTRE DAME LAW. 349 (1971). For historical developments of this area of law, see Andrews, *supra* note 52, at 373.

54. *See* Dawn E. Johnsen, *The Creation of Fetal Rights: Conflicts with Women's Constitutional Rights to Liberty, Privacy, and Equal Protection*, 95 YALE L. J. 599, 603 (1986).

55. *Id.* at 609-11.

56. *Id.* at 603.

57. *Id.* at 603-06.

58. "[T]he state's interest in preserving life must truly be compelling to justify overriding a competent person's right to refuse medical treatment." *In re* A.C., 573 A.2d 1235, 1246 (D.C. App. 1990). Several cases of forced blood transfusions, caesarian sections and detention in hospitals have been reported. *See* Robin M. Trindel, *Fetal Interest vs. Maternal Rights: Is the State Going*

and bodily integrity.[59] The pregnancy clauses in living will statutes, which prevent the application of a living will to an otherwise qualified, but pregnant woman, proceed from the same mechanism.[60]

Recent developments in the law may be linked to advances in medical technology, which allow close fetal monitoring and medical intervention on behalf of the fetus. Interventions might represent a significant burden for women because interventions on behalf of the fetus are conceptually and technically distinct from those on behalf of the pregnant woman.[61] As a result, obstetricians increasingly face two patients with potentially conflicting interests.[62] They tend to forget the traditional wisdom of their older peers, who routinely favor women's interests when confronted with such potential conflicts.[63] Medical ethicists have debated the two-patient obstetric model at length without completely overcoming its inherent problem: interventions on behalf of the fetus inevitably affect the bodily integrity of its mother and should therefore make her informed consent an indispensable prerequisite.[64] After a sophisticated analysis of the two-patient obstetric model, one author proposed "a model of the maternal-fetal dyad as a two-patient ecosystem,"[65] the effect of which would "join the professional-patient relationships to the two patients almost as closely as if they were a single compound commitment to one compound patient."[66] The author concluded, "[o]ne patient or two, independent or dependent, when the various possible models of the maternal-fetal dyad are consistently applied, they converge to reinforce the physician's customary ethical stance—working cooperatively with the pregnant woman for common, linked goals of infant, maternal, and family well-being."[67] In other words, any consistent application of the two-patient obstetric model should reach the same result as the traditional view of the maternal-fetal dyad as a unique entity, assuming the woman's and the fetus's interests coincide. Under these circumstances, the two-patient obstetric model appears to serve academic, rather than practical interests.

Despite these recent judicial and medical developments, *Roe v. Wade*[68] still governs the status of the fetus in the womb.[69] Denying personalty to viable embryos and fetuses appears to be the only sustainable position in systems that

---

Too Far? 24 AKRON L. REV. 743 (1991); Johnsen, *supra* note 54, at 747. For a discussion of the fetus's impact on the patient-doctor relationship, including the conflict of interest between the future mother and her child, see Susan S. Mattingly, *The Maternal-Fetal Dyad: Exploring the Two-Patient Obstetric Model*, HASTINGS CENTER REP. Jan.-Feb. 1992, at 13.

59. Janice McAvoy-Smitzer, *Pregnancy Clauses in Living Will Statutes*, 87 COLUM. L. REV. 1280, 1283 (1987).

60. *See id.* at 1282-83; *see also infra* Part IV..A.2.ii.

61. Mattingly, *supra* note 58, at 14.

62. *Id.*

63. *Id.* at 13.

64. *Id.* at 16.

65. *Id.* at 18.

66. *Id.*

67. *Id.*

68. Roe v. Wade, 410 U.S. 113 (1973).

69. "[T]he use of the word person is such that it has application only postnatally. . . ." *Id.* at 157.

permit voluntary or therapeutical abortion, or require informed consent for medical interventions. The logical flaw in the converse solution seems insurmountable.[70]

In summary, one can conclude embryos and fetuses are currently not considered persons in either Anglo-American or continental law, despite a recent contrary trend in some United States criminal law. This result appears sensible if the system seeks to avoid conflicts of interest with the rights of pregnant women.

If embryos or fetuses in the womb are not subjects of rights according to current legal systems, then can they be classified as either objects of rights or legal entities distinct from the mother? This author adopts the position of Xavier Labbee,[71] which categorizes the embryo or fetus in the womb with other body parts before their separation from the person.[72]

2. *Body Parts Before Separation from the Person*

The temptation exists to qualify fetuses and body parts incorporated in the person as objects of rights—that is, as legally distinct entities. Distinct legal entities have, however, distinct fates. This fact inevitably interferes with the right to bodily integrity of the person whose body is made up of the parts at issue. The situation is analogous to the one referenced above regarding embryos and fetuses in the womb, except that instead of the conflict being between two subjects' fates, the conflict is between a subject and an object. For these reasons, embryos, fetuses, and body parts not separated from the person should not be considered distinct legal entities.

One commentator, Margaret Radin, states:

> The idea of property in one's body presents some interesting paradoxes. In some cases, bodily parts can become fungible commodities. . . . On the other hand, bodily parts may be too "personal" to be property at all. We have an intuition that property necessarily refers to something in the outside world, separate from oneself.[73]

---

70. For example, many religions grant personhood to a fetus in the womb at some point during development. *See* Pierre Dauchy, *L'Embryo–Technologie Ou De La Nature Juridique De La Personne Humaine, in* BIOÉTHIQUE ET DROIT 85 (1988). Catholics and Buddhists recognize personhood at conception, Jews on the 40th day, and Muslims on the 121st day. Protestants have no predetermined "schedule" for the personhood of the fetus. *Id.* The impact of these religious positions depends on how they understand the term "person" and "personalty": either as equivalent to subject of rights, or something else.

71. LABBEE, *supra* note 27, at 267.

72. *Id.* Classification of embryos and fetuses with other body parts does not mean they have the same legal status. Objects of rights can have different regimes. The difference between embryos and fetuses and other body parts not separated from the person will notably appear in the area of separation, like limitations to third trimester abortions.

73. Radin, *supra* note 24, at 966.

One may surmount this apparent paradox by recognizing the important distinction between the status of body parts before and after their separation from the person. Radin believes it is "appropriate to call parts of the body property only after they have been removed from the system."[74]

This potential conflict reflects the problem arising from the reflexive nature of the relation between the person and her body. If one concludes body parts not separated from the person are objects of rights legally distinct from the person, the same physical entity is both a subject and object of rights. This duality yields odd paradoxes in reflexive actions. An example of this is when the person, the subject, would interact with her parts, which are considered objects. For this reason, body parts—as well as embryos and fetuses—not separated from the person should not be considered as objects of rights, but as participating with the person herself.[75] Grammar seems to confirm this concept because the verb "to own" is transitive. One cannot "own" one's self because one's self, as well the parts of one's self, are not objects, but subjects, or parts of a subject.[76] Although of another nature, the legal protection of the person is at least as strong as the legal protection of property.[77] Moreover, granting attached body parts the status as separate legal entities creates the potential for separate ownership, thus generating the previously discussed conflicts.

As mentioned above, Xavier Labbee proceeds in a similar fashion by introducing the notion of *objects corporel personne par destination.*[78] This notion is drawn by analogy from Roman real property law, which recognizes a mobile object as part of the real estate when the former is integrated with the latter.[79] Interestingly, the integrated accessory is legally part of the real estate even if not added by the real estate owner.[80] Applied to the human body, this means an artificial prosthesis should also be treated and protected as a body part at the moment it is integrated with the body. In other words, the prosthesis legally "disappears" when it is embodied in the subject or the person. The prosthesis is a thing—object of rights—not when it is first purchased, but when it is integrated in the person of the purchaser. At this time, it loses its status of an object of

---

74. *Id.*

75. *Cf. id.*

76. In his second essay concerning civil government, John Locke states "every man has a 'property' in his own 'person.'" JOHN LOCKE, SECOND TREATISE ON CIVIL GOVERNMENT 26 (1690). This statement should not be taken literally, but in the context of the labor of man's body.

77. The distinction between personal rights and property rights is central in the controversy over the human body; thus, if the right to dispose of property is a landmark feature of property rights, the disposability of personal rights is highly controversial. *See infra* Part III.

78. This translates to "corporeal object, person by purpose." *See* LABBEE, *supra* note 27, at 251.

79. The Latin maxim is *accessorium sequitur principale*. The equivalent of this in common law is the notion of fixtures. The common-law majority position, however, includes three classifications of property: realty, fixtures, and personalty. In Roman-rooted civil law systems, there is only realty and personalty; fixtures are either personalty or integrated in realty. *See* Alphonse M. Squillante, *The Law of Fixtures: Common Law and the Uniform Commercial Code—Part I: Common Law of Fixtures*, 15 HOFSTRA L. REV. 191 (1987).

80. *Id.* at 211.

rights to become a *personne par destination.*[81] The object becomes a part of the person and is protected along with the person. No reason exists to apply commercial rules to integrated prostheses any more than to persons.

The analogy to real property law could continue through another line of reasoning. According to Roman property law, a mobile accessory not physically integrated with the real estate can be part of it if the accessory is needed by the owner.[82] As applied to human materials, any device necessary to the functioning of the person would be *personne par destination* as soon and as long as the owner attaches it to his person. The physical integration with the body would no longer be necessary. Accordingly, all prostheses, whether physically integrated or not, could be *personne par destination.* This concept extends to many prostheses: removable dentures, artificial limbs, hearing aids, glasses, lenses, crutches, and so forth. Conversely, the prosthesis recovers its former status of object when the person decides to end the assignment of the device. One could change glass frames, for example. This line of reasoning would create, however, problems in borderline cases like wigs, in which a clear definition of what is necessary to the person would be essential.

The theory of *objects corporels personne par destination* is relevant to human materials primarily because its first line of reasoning is based on integration. Generally, human materials dedicated to a person are integrated with the person's body. The regimen should be applied to all natural body parts, as well as the more unusual situation of embryos, fetuses, grafts, and foreign bodies.

The mechanism should be applied to the embryos and fetuses because they are *pars mulieris*[83] and protected through the person of the mother. As a result, the mother's right to bodily integrity includes the bodily integrity of the fetus. In a legal system allowing abortion, only the woman can decide to abort because her body alone is at stake, and it is not a legally distinct subject or object. This is equally true for a surrogate mother. If a surrogate mother decides to abort a "foreign" fetus, she can do so in the name of her bodily freedom. As a result, the biological parents could only claim damages for breach of contract, having no property rights in the fetus, nor any power over the woman's body. The fetus is legally viewed as a part of the surrogate mother's body.[84] This theory also has the advantage of barring any abuse of the kind found in the *In re A.C.* case.[85]

---

81. *See* LABBEE, *supra* note 27, at 251.

82. *See* Squillante, *supra* note 79, at 200. Conversely, English and American law emphasize physical attachment. *Id.* at 194. "There must still be either physical or constructive annexation of goods for fixture status to arise; gravity is not enough." *Id.* Switzerland and other countries that strongly rely on Roman legal tradition have adopted Roman property law almost verbatim. Article 644 (al 2) of the Swiss Civil Code states, "Accessories are all movable objects which, according to the custom or the clearly stated will of the owner of the main thing, are dedicated to the use of the latter on a long-term basis. . . ." Code Civil [C. civ.] art. 644 (Switz.) (translation by author).

83. Literally, this means "part of the woman" (translation by author).

84. *See infra* Part III.

85. *In re* A.C., 533 A.2d 611 (D.C. 1987) (ordering a caesarean section upon a terminally ill woman in order to increase the fetus's chances for survival, despite her and her family's objection), *reh'g granted*, 539 A.2d 203 (D.C. 1988), *vacated*, 573 A.2d 1235 (D.C. 1990). On appeal, the court held when a patient pregnant with a viable fetus is near death, the decision is left to the

The *object personne par destination* mechanism should apply to the organ graft as well. After integration with the recipient's body and person, the graft loses its status as an independent object of rights and merges with the recipient upon implantation.[86] The legal status of the graft follows the status of the subject of rights. This solution safely prevents any property claim to the grafted organ as an object because it ceases to exist as an object.

A multitude of cases concerning nonprosthetic foreign bodies may arise in practice. Some are involuntarily integrated with the body; others are voluntarily integrated for concealment purposes. Surgical sponges or instruments left in the body by a surgeon, and bullets or other projectiles deposited by third parties, exemplify foreign bodies which are involuntarily integrated. The typical classes of objects that are voluntarily integrated with the body include stolen rings or narcotics, which may be swallowed or concealed in natural body cavities.[87] Regardless of the motives behind the integration, the theory of *object personne par destination* should be applied in these cases.[88] This does not mean the person in which the foreign body is integrated owns it, but rather the foreign body is integrated with the person and it legally disappears.[89] It means the relevant rules in such situations are the rules customarily applied to the person, rather than the rules applied to property. Thus, when medical professionals retrieve a foreign body, the relevant rule is informed consent. The legal system is interested in retrieving foreign bodies because their presence indicates medical negligence or criminal guilt. Depending on how society values the informed consent rules, one can imagine waivers regarding informed consent in extreme cases. The U.S. Supreme Court ruled on such a case, deciding a bullet entrapped in the body of a suspect should not be removed against his will.[90] In this author's opinion, most cases should not require a waiver of informed consent. Any swallowed ring, gemstone, or contraband will reappear in the near future. Thus, strict supervision of the suspect and his stool provides the same result as an involuntary and physically intrusive medical procedure. Once the objects are passed, they lose their status of *personne par destination* and become objects of rights. After passing,

---

patient, unless the patient is incompetent or otherwise unable to give informed consent to the proposed course of medical treatment. The court stated A.C.'s decision must be ascertained through the procedure known as substituted judgement. *Id.*

86. *See infra* Part II.A.1.i.

87. A condition known as body-pack syndrome occurs when, in the process of transporting illegal drugs by swallowing or inserting drugs encapsulated in latex prophylactics, the condom breaks and the contents are released. This results in a life-threatening overdose. *See, e.g.*, Owens v. Johnson, 70 F.3d 1118 (10th Cir. 1995); United States v. Andiarena, 823 F.2d 673, 675 (1st Cir. 1987); United States v. Richards, 500 F.2d 1025, 1026 (9th Cir. 1974).

88. As previously discussed, in property law, an integrated accessory is legally part of the real estate even if not added by the real estate owner. It applies in the case of nonprosthetic foreign bodies placed in the body by third parties. *See supra* text accompanying notes 79-83.

89. The foriegn body disappears as an autonomous legal entity. The foreign body does not, however, legally disappear from the perspective of the third party who is entitled to it. If the third party was entitled to the object before integration with the human body, liability might arise against the person who made it disappear.

90. Winston v. Lee, 470 U.S. 753, 764 (1985). The proposed surgery "would be an 'extensive' intrusion on respondent's personal privacy and bodily integrity . . . a virtually total divestment of respondent's ordinary control over surgical probing beneath his skin." *Id.* at 764-65.

the police can seize such objects as evidence. The administration of a laxative with the individual's consent is an alternative; however, at least one court has held the forced ingestion of an emetic solution to retrieve containers holding heroin is illegal.[91] Warrants authorizing a body search of a person generally allow for the exploration of natural body cavities.[92]

In summary, for legal purposes this author would adopt a monistic view of the person and her attached body parts, including embryos and fetuses in the womb. The related question of foreign bodies and prostheses should be resolved in the same manner. Any other solution poses a potentially dangerous challenge to the principles of bodily integrity and informed consent.

3. *Embryos and Fetuses Outside the Womb*

After separation from the womb, the legal status of the unborn fetus depends on characteristics linked to the stage of maturation. Considering physiological data and the current limitations of reproductive technology, three stages can be distinguished: (1) an early, preembryo stage, during which implantation of the embryo in a woman's womb is still possible; (2) an intermediate stage during which neither further implantation nor viability outside the womb is possible; and (3) a late stage during which the fetus is viable outside the womb.

i. *Preembryos.* Preembryos are generally produced through in vitro fertilization (IVF), a procedure simulating the natural process of fertilization.[93] During the process of IVF, multiple preembryos are usually produced; a few are initially implanted and the remaining are frozen for later use.[94] The implantation or freezing must occur within 48 to 72 hours after fertilization to preserve the preembryo's potential for human life.[95] Questions concerning the legal status of these frozen preembryos have been raised. In *Davis v. Davis*,[96] a Tennessee court considered the disposition of frozen preembryos from a divorced couple. In doing so, the court examined whether the preembryos were persons or property.[97] The court clearly stated preembryos cannot be considered as persons under federal law: "the unborn have never been recognized in the law as persons in the

---

91. *See* People v. Bracamonte, 540 P.2d 624 (Cal. 1975).

92. *But see* Bernard M. Dickens, *The Control of Living Body Materials*, 27 U. TORONTO L.J. 142 (1977) (citing cases holding when a warrant authorizes the search of a person, it does not authorize intrusion beneath the surface of the skin or into natural cavities of the body).

93. *See* Davis v. Davis, No. E-14496, 1989 WL 140495, at *4 (Tenn. Cir., Sept. 21, 1989) (summarizing expert testimony offered at trial). IVF is performed most often on women with tubal disease or men with low sperm count. *See* Richard P. Dickey, *The Medical Status of the Embryo*, 32 LOY. L. REV. 317, 318-19 (1986).

94. John A. Robertson, *In the Beginning: The Legal Status of Early Embryos*, 76 VA. L. REV. 437, 443 (1990).

95. *Id.*

96. Davis v. Davis, 842 S.W.2d 588 (Tenn. 1992), *cert. denied sub nom.*, Stowe v. Davis, 113 S. Ct. 1259 (1993).

97. *Id.* at 594-95.

whole sense."[98] Uneasy with the idea of considering preembryos as plain property, the court concluded preembryos are neither persons nor property, but belong to an interim category.[99] A similar doctrine is currently developing in Europe, which grants a specific status to preembryos—the status of a "potential person."[100] In the author's opinion, the term "potential person" is used only to avoid shocking the conscience with words not commonly used to qualify a human living structure—that is, an object.[101] Admitting preembryos are objects of rights is preferable because they do not achieve the minimum standard for legal persons. Preembryos can be lawfully destroyed, frozen for future implantation, or adopted by another couple; therefore, they are not granted the hard nucleus of constitutional rights that define a legal person. One could imagine granting embryos the hard nucleus of rights in an effort to make them legal persons.[102] If embryos are destroyed or transferred, however, practical problems will inevitably arise, especially in criminal matters. Currently, preembryos are handled more like objects than people.

If we persist with the notion of a potential person or an interim category, we will inevitably face the problem of "subpersons," because the rights granted to these potential persons will necessarily be more narrow than the rights of "regular" persons.[103] Moreover, preembryos are not individualized and can give rise to twins if splitting—by natural or artificial means—occurs soon after conception.[104] Therefore, the "potential person" can yield two or more living persons.

Accepting embryos as objects and further qualifying their status according to their special nature appears to be a better solution. As already noted, the legal status of objects of rights is more flexible than the status of persons, and can be adapted to the special features of the object at issue.

ii. *Nonviable fetus.* When a living fetus is miscarried and born too prematurely to survive, reimplantation is not currently feasible and would be of questionable value because many spontaneous miscarriages are due to genetic defects. In these cases the fetus usually dies shortly after delivery. Due to the steady retreat of the stage of viability, which is currently between twenty-four and twenty-six weeks with possible individual variations, the actual limit of viability in a given case is difficult to accurately determine. Accordingly, living

---

98. *Id.* at 595 (quoting Roe v. Wade, 410 U.S. 113, 162 (1973)); *see also* York v. Jones, 717 F. Supp. 421, 425 (E.D. Va. 1989) (holding prezygotes are considered "property").

99. Davis v. Davis, 842 S.W.2d at 597. The court held "preembryos are not, strictly speaking, either 'person' or 'property,' but occupy an interim category that entitles them to special respect because of their potential for human life." *Id.*

100. Comité National d'Ethique (Fr.), *Les Procréations Artificielles, Rapport au premier ministre*, LA DOCUMENTATION FRANÇAISE, 58 (1986); *see* Raphaël Draï, *L'embryon, Personne Potentielle?, in* BIOÉTHIQUE ET DROIT 92 (1988).

101. Adding the word "potential" ruins the attempts to make the embryo or the fetus a person. "The being is, the no-being is not." Parmenide and Shakespeare would undoubtedly agree.

102. *See, e.g.*, Colleen M. Browne & Brian J. Hynes, *The Legal Status of Frozen Embryos: Analysis and Proposed Guidelines for a Uniform Law*, 17 J. LEGIS. 69 (1990).

103. *See* Dauchy, *supra* note 70, at 88.

104. *See* Robertson, *supra* note 94, at 510.

fetuses should be considered as persons as long as they survive, especially when delivered in the second or third trimester. They also should be considered as objects after their death, like dead bodies or other human tissues.

Similarly, the nonviable, but living fetus can be the result of a late abortion, legally performed for medical reasons between twenty and twenty-four weeks.[105] Although rare, such cases are often catastrophic because the live birth occurs after the woman psychologically abandoned the prospect of birthing a handicapped baby and elected a therapeutic abortion.[106] This usually results in a major conflict because the decision to resuscitate these fetuses turns on two irreconcilable interests—the right of the mother to choose an abortion and the right of the newborn to receive medical treatment.[107] In order to prevent this anomalous result, one medical center performs abortions by injecting potassium chloride into the fetus's heart before inducing labor.[108]

iii. *Viable fetus.* A viable fetus becomes a person subject to rights immediately following delivery.[109] Generally, viability is defined by the stage of the fetus.[110] As already noted, this criterion is subject to refinement as advances in medical technology provide for the survival of increasingly premature fetuses. Consequently, the status of a person should be granted to any live birth occurring in the second or third trimester.

4. *Dead Bodies*

Generally, legal systems classify dead bodies as objects rather than subjects of rights.[111] The common law terms their special legal status as "quasi-property," which is discussed in Part III. While the status of dead bodies is well-defined, the moment the deceased becomes an object, that is the moment of death, is less obvious. As a result, the status of patients affected by persistent vegetative state (PVS) is unclear, and their status as persons is frequently challenged.[112] Similarly, the status of dying patients in an acute condition may also be questioned.

---

105. Nelson B. Isada et al., *Fetal Intercardiac Potassium Chloride Injection to Avoid the Hopeless Resuscitation of an Abnormal Abortus: I. Clinical Issues*, 80 OBSTETRICS & GYNECOLOGY 296 (1992).

106. *Id.*

107. John C. Fletcher et al., *Clinical Commentary: Fetal Intracardiac Potassium Chloride Injection to Avoid the Hopeless Resuscitation of an Abnormal Abortus*, 80 OBSTETRICS & GYNECOLOGY 310, 310-13 (1992).

108. *Id.*

109. Roe v. Wade, 410 U.S. 113, 162 (1973).

110. *Id.* at 160.

111. CODE CIVIL [C. CIV.] art. 31 (Suisse). The Swiss civil code could not be clearer—art. 31 states that personalty "ends with death." *Id.*

112. *See* Marie-Angèle Hermitte, *Le Corps, Hors du Commerce, Hors du Marché*, 146 DIPLOMÉES 120, 125 (1988) (claiming experimentation should be allowed without consent on persistent vegetative state patients).

For example, courts sometimes disregard a person's dying wish because the person is considered incompetent to make decisions for herself.[113]

Traditional views of the passage between life and death consider the transition as a jump into another world with a "no man's land" lying in the gray area between.[114] This view comports with the law, which defines a living person and a dead body as two different legal entities. This view was consistent with medical science, but medical advances over the last thirty years, in particular the advent of respirators and cardiopulmonary resuscitation (CPR), have challenged this view.[115] Prior to these advances, patients sometimes remained in limbo in the former no man's land, which precipitated questions concerning their legal status.

Society has had to struggle to fashion a coherent legal doctrine to deal with the gray area between life and death. One option is to maintain a clear distinction between persons and dead bodies, redefining precisely the boundary lying between the two entities. The major advantage of this option is it leaves the legal system virtually untouched. The disadvantage is advances in technology and changes in social values render contemporary boundaries obsolete.[116] The second option recognizes the dynamic character of the dying process and modifies the legal system accordingly. One advantage over the first option is the logical approach to the problem. The obvious drawback is that a remodeling represents a major change in the legal system with unforeseeable consequences and practical problems.

Society unconsciously opted for the first alternative, keeping the legal categories unchanged. During the 1960s, transplantation and reanimation technologies combined in an effort to change the classical criterion for death, which formerly included the cessation of heart and respiratory activities.[117] As a result, the entire Western world finally adopted whole brain-death criterion.[118] The public commonly accepted the new criterion, a modification from a Harvard Medical School proposal in 1968.[119] Some deeply religious communities, partic-

---

113. *Cf. In re* A.C., 533 A.2d 611 (D.C. 1987), *vacated*, 573 A.2d 1235 (D.C. 1990) (ordering a caesarian section on terminally ill woman who was twenty-six weeks pregnant and was *in extremis* over her objection).

114. *See* President's Comm'n for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, Defining Death: A Report on the Medical, Legal, and Ethical Issues in the Determination of Death 15 (1981) [hereinafter *Defining Death*]; William J. Curran, *The Law and Human Experimentation*, 275 NEW ENG. J. MED. 323, 323 (1966).

115. *Defining Death, supra* note 114, at 15-16.

116. *Id.*

117. *Id.* at 5.

118. *See* Bo Andreassen Rix, *Danish Ethics Council Rejects Brain Death as the Criterion of Death*, 16 J. MED. ETHICS 5 (1990). Denmark was an exception. *Id.*

119. That the brain-death criterion for determining death was commonly accepted by the public is most remarkable The current American statute, available for adoption by the states, is the Uniform Definition of Death Act (UDDA) 12 U.L.A. 340 (Supp. 1991).

ularly the Japanese[120] and Jewish orthodox communities,[121] have refused the brain-death criterion.

Society has arguably adopted a binary view of a dying person. On one hand, the person herself disappears with all her brain functions, according to a sort of "all-or-nothing" rule.[122] After cessation of brain activity, the remains of the person become objects of rights even though they still are biologically alive.[123]

On the other hand, according to the whole-brain death criterion, a person legally dies when an "irreversible cessation of all functions of the entire brain, including the brainstem" occurs.[124] This is a conceptual definition of brain death. This definition has been translated into operational criteria for the medical diagnosis of brain death.[125] A recent study by Harvard Medical School[126] shows, however, these operational criteria are inconsistent with the conceptual definition.[127] The study reveals patients who meet the clinical or operational criteria currently used for the determination of death do not necessarily exhibit an irreversible loss of all brain functions.[128] The study cites four examples.[129] First, many patients retain neuroendocrine function.[130] Second, many patients maintain some cerebral electrical activity.[131] Third, some patients retain environmental

---

120. K. Bai, *The Definition of Death: The Japanese Attitude and Experience*, 22 TRANSPLANTATION PROC. 3 (1991). According to K. Bai, the brain death criterion has never been accepted in Japan due to the disparity between the socially accepted idea of what is death and the theory on brain death. *Id.* The resistance in Japan to accept the concept of brain death can be explained by comparing what is meant by "person" in Western countries. Jiro Nudeshima, *Viewpoint: Obstacles to Brain Death and Organ Transplantation in Japan*, 338 LANCET 1063 (1991). The Japanese notion of person is collective and community-oriented, while the Western concept of "personhood" is more individualistic. *Id.*

121. S. Poliwoda, *Kriterien der Todesbestimmung im Jüdischen Glauben*, 5 WIEN MED WOCHENSCHR 1 (1992).

122. Strachan v. John F. Kennedy Memorial Hosp., 507 A.2d 718, 719-20 (N.J. Super. Ct. App. Div. 1986) (describing disappearance of patient after declaration of brain death).

123. *See generally A Definition of the Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death*, 205 JAMA 337, 337-38 (1968) (defining characteristics of the nonfunctioning brain).

124. *Defining Death*, *supra* note 114, at 28.

125. These operational, medical criteria have been described by a committee of medical consultants. *Id.*

126. Robert D. Truog et al., *Rethinking Brain Death*, 20 CRITICAL CARE MED. 1705 (1992).

127. *Id.*

128. *Id.* at 1706.

129. *Id.*

130. *Id.* This assumes that "activity" equals "function" in the current conceptual definition of brain death. If function was considered more complex than a mere activity, the conceptual definition of "irreversible cessation of all brain functions" would not be an obstacle to a higher brain-death criterion.

131. *Id.*

responsiveness.[132] Finally, many patients retain spinal reflexes, a sign of central nervous system activity.[133]

Resolving inconsistencies between the conceptual and operational criteria of brain death can only be accomplished in two ways.[134] The first way is to modify the operational criteria in order to ensure the irreversible cessation of all functions of the entire brain.[135] The advantage of this approach is it keeps the legal conceptual definition the same. This approach is not feasible, however, in practice. Modern clinical testing cannot reliably detect the cessation of all brain functions.[136] The absence of electrical activity or cerebral blood flow does not necessarily indicate an irreversible cessation of all brain functions.[137]

The second approach modifies or at least reinterprets the legal definition of brain death.[138] In this context, the notion of "function" is of paramount importance. If one claims "brain function" means "consciousness," the brain-death criterion becomes the higher brain-death, or neocortical death criterion. According to this definition, an irreversible loss of consciousness would warrant a diagnosis of death.[139] Alternatively, one can clearly abandon the notion of brain death as ill-suited and define the new criterion as the irreversible loss of consciousness; the practical result would be the same.[140] Regardless of the definition adopted, the significance of this approach indicates the moment of death need not be discovered empirically by scientific means. Rather, it must be chosen by society, according to its prevailing values.

If society adopts a higher criterion of brain-death, some entities currently considered legal persons—patients affected by permanent vegetative state or related syndromes—would be declared dead. Accordingly, their organs could be harvested. There exists, however, the potential for a slippery slope argument because legal systems traditionally delegate to doctors the task of defining the operational criteria. It is possible to speculate that as a result of their medical training, doctors inevitably possess a natural incentive—neither financial, nor conscious, but perhaps related to their common values—to influence the operational criteria so to permit more transplants.

Both the whole brain-death as well as the higher brain-death criteria have been, or will be, adopted for more pragmatic than philosophical reasons—a legal means to obtain quality organs. Nevertheless, these criteria are consistent with a philosophical doctrine advanced by Joseph Fletcher[141] and Tristram Engelhardt

---

132. *Id.* at 1707.
133. *Id.*
134. *Id.*
135. *Id.* at 1708.
136. *Id.*
137. *Id.*
138. *Id.* at 1709.
139. *Id.*
140. *Id.*
141. Fletcher's last criterion for humanness is "neocortical function." FLETCHER, *supra* note 38, at 16.

that rejects the moral significance of the body and considers the functioning neocortex as the sign of the person.[142]

In summary, one can conclude the truism that dead bodies are not subjects of rights is still valid. One must also recognize much depends on how we define a dead body. Today, the trend is to broaden the definition of death to include entities previously considered persons. All debate surrounding the death criteria should strive to resolve this growing paradox—declaring legally "dead" a body that is biologically "alive." If the trend continues, society may become increasingly reluctant to accept new death criteria.

5. *Anencephalic Infants*

Anencephaly is a congenital malformation causing babies to be born without most of the brain.[143] These babies have no cortex, but possess some functional part of the brain stem which allows them to breathe.[144] This is an uncommon condition, occurring in about 2500 pregnancies annually in the United States.[145] Although the majority of these pregnancies end in abortion, nearly 1000 lead to a delivery.[146] The majority of anencephalic infants are stillborn, but between 25% and 45% are live births.[147] Invariably, the prognosis for such infants is death occurring within a few hours or in rare occasions, a few months.[148]

It is not only tempting for doctors to harvest organs from such infants, but also for their parents to consent to the procedure.[149] Such infants, however, do not meet the legal definition of death, which is irreversible cessation of all brain functions, including the brain stem. Waiting until these babies die naturally from cardiorespiratory arrest inevitably leads to organ damage and a lower graft rate. In response to this concern, some suggest the concept of death be redefined to higher brain-death[150] and anencephalic babies be declared dead. Others advocate an exception to brain-death policy for anencephalic infants.[151] The case of anen-

---

142. "Neocortical function is the key to humanness, the essential trait, the human *sine qua non*." Joseph Fletcher, *Indicators of Humanhood: A Tentative Profile of Man*, 1972 HASTINGS CENTER REP. 1; *see* TRISTRAM ENGELHART, THE FOUNDATION OF BIOETHICS 127 (1986).

143. Sabra Chartrand, *Legal Definition of Death Is Questioned in Florida Infant Case*, N.Y. TIMES, Mar. 29, 1992, at 12.

144. *Id.*

145. *Id.*

146. *Id.*

147. *Id.*

148. James W. Walters & Stephen Ashwal, *Organ Prolongation in Anencephalic Infants: Ethical and Medical Issues*, 1988 HASTINGS CENTER REP. 19.

149. *See* Chartrand, *supra* note 143, at 12. One mother commented, "It was done beautifully . . . and with respect for my husband and I, for our baby, for her life." *Id.*

150. *See id.*

151. *See* Michael R. Harrison, *Organ Procurement for Children: The Anencephalic Fetus as Donor*, 2 THE LANCET, Dec. 13, 1986, at 1383. Dr. John Fletcher stated: "'I think anencephaly is the only exception you have to make to brain death policy because it's a unique condition.'" N.Y. TIMES, Mar. 29, 1992, at 12. Fletcher, director of the Center for Biomedical Ethics at the

cephalic infants clearly challenges the current definition of death. The situation of these infants is unique. If they are declared dead at delivery, they will become objects of rights without ever having been subjects of rights. Thus, there is a risk stillborn infants will be treated differently compared to formerly living subjects.

Despite this current debate, the standard definition of death remains the whole brain-death criterion. Accordingly, anencephalic infants are not considered dead immediately following delivery or stillbirth. Therefore, one must conclude, these infants are currently granted the status of subjects of rights and entitled to legal protection as persons.

A recent case decided in the Fourth Circuit tacitly confirms this view. In *In re Baby K*,[152] the mother insisted her anencephalic daughter be provided with mechanical breathing assistance, but her physicians maintained such care was inappropriate.[153] After her initial stay in the hospital, physicians transferred Baby K to a nursing home.[154] Although Baby K required several visits to the hospital for intubation and assisted ventilation, she survived for eighteen months.[155] Recognizing the futility of these interventions, the hospital brought action to determine if it had any obligation to provide such care.[156] The court determined the hospital was required to provide emergency respiratory support to Baby K under the Emergency Medical Treatment and Active Labor Act (EMTALA).[157] The court failed to reach the fundamental issues; instead, it focused on the hospital's duty under federal law to provide care in emergency situations.[158]

Apart from the motives underlying the court's decision,[159] the case of *Baby K* highlights the absurd nature of our current death criterion as applied to anencephalic infants. The court's decision is logical only if the premise that anencephalic infants are persons is accepted. If the EMTALA did not apply, the court could have applied the Americans with Disabilities Act (ADA)[160] or another similar statute. If society wishes to deny treatment to patients like Baby K, perhaps it should redefine its death criterion, either generally, or specifically for anencephalic infants.

University of Virginia, was an author of the article advocating late therapeutical abortions. *See supra* text accompanying notes 107-08.

152. *In re* Baby K., 16 F.3d 590 (4th Cir. 1994).

153. *Id.* at 593.

154. *Id.*

155. *Id.*

156. *Id.* at 592-93.

157. *Id.* at 592 (citing the Emergency Medical Treatment and Active Labor Act, 42 U.S.C. §§ 1395dd (1992)).

158. *Id.* at 592-98. In 1986, Congress enacted EMTALA to prevent hospitals from not treating patients unable to pay for their medical care. *Id.* at 593 (quoting Brooks v. Maryland Gen. Hosp., Inc., 996 F.2d 708, 710 (4th Cir. 1993)).

159. Anencephaly, not the resulting respiratory failure, should have been the condition considered relevant to the applicability of EMTALA. *See id.* at 599 (Sprouse, J., dissenting).

160. Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101-12213 (1994).

6. *Embryos or Fetuses in a Deceased Mother*

Like the surviving anencephalic infant, an embryo or fetus living in a deceased mother is an entity resulting from recent developments in medical technology. It combines a living fetus and a legally dead, but biologically living body. In order to anticipate issues like organ harvesting, human experimentation, and birth, the legal status of the deceased but pregnant woman must be evaluated. Moreover, the family status of such an infant should be adjusted.[161] If dead bodies are no longer subjects of rights, and fetuses either inside or outside the womb are not considered persons, there is no reason to grant personalty to a combination of the two.

There exist, however, significant arguments for placing this situation in another legal status. The embryo or fetus within its legally dead, but biologically living mother is neither really inside the womb nor outside the womb. The situation is more closely akin to that of a fetus in an artificial womb. In both cases, an object of rights—either an artificial womb or a dead body—harbors a potential subject of rights. Unlike an embryo or fetus in its mother's womb, the embryo or fetus in this case is not legally protected through the person of its mother. These circumstances may warrant a different treatment of the embryo or fetus than described in sections two and three, and the law could possibly grant it personalty.

Nevertheless, granting personalty to an embryo or fetus in certain circumstances and not in others is inconsistent. Moreover, the wishes of the deceased mother concerning organ donation or autopsy could clearly interfere with the development of the embryo or fetus. Another solution to protect the fetus could be developed. Such a solution would require an exception to the brain-death policy for pregnant women and would establish as the criterion of death the irreversible cessation of brain functions in addition to the termination of the pregnancy.[162] Accordingly, a brain-dead woman would be legally alive, but declared legally dead only upon the delivery or biological death of her baby. This practical solution provides protection to the fetus through the person of the mother as if the mother was not brain dead. Moreover, this solution respects the wishes of brain-dead women by allowing abortion in situations in which women elected the procedure prior to trauma and the continuation of the pregnancy in the alternative.[163]

This solution of modifying the brain-death criterion is, however, valid only *de lege ferenda*.[164] Given the current state of the law, one must conclude that the

---

161. The infant occupies the position similar to that of an infant born from a deceased, or unknown father. Real problems arise when the father is unknown because the infant has no legal parent at birth. *See, e.g.*, Levy v. Louisiana, 391 U.S. 68, 70 (1968) (holding illegitimate children do not fall in the category of "non-person[s]").

162. As used in this context, the term "termination of the pregnancy" is construed as the birth or the death of the fetus.

163. Admittedly, such a solution would not cure the problem created by pregnancy clauses in living wills statutes, which void the wishes of subjects of rights. *See infra* Part III.A.2.ii.

164. *De lege ferenda* translates to "binding in the future" (translation by author).

pregnant brain-dead woman is an object of rights. Part III sets forth the viewpoint that this strange object has the characteristics of a *res extra commercium.*

7. *Body Parts After Separation From the Person*

Obviously, once body parts become separated from the person, they are no longer subjects of rights, but objects of rights. Their various categories—including microscopic subparts of the human body like cells, nucleic acids and other chemicals—are discussed in Part III.

With the exception of anencephalic infants and possibly fetuses in pregnant brain-dead women, none of the entities discussed in this section are currently considered subjects of rights. This satisfies the intuitive statement that "only human beings are subjects of rights."[165] Embryos and fetuses in the womb are embodied within the mother, a person. Accordingly, they are not independent objects of rights. This distinction is not only of academic interest. If one recognizes embryos and fetuses in womb and embodied body parts as legal entities distinct from the person, then the potential for different judical outcomes exists. Hence, the possibility arises that the person could no longer control his or her own body. Given these classifications, Part III discusses the transition from one status—subject or object of rights—to the other.

III. MOVING BETWEEN SUBJECT AND OBJECT

Human materials are capable of transition from object to subject and vice versa. Prostheses and other nonhuman *personne par destination,* incorporated in living persons are the only other examples.[166]

A. *Two Types of Transitions*

1. *Transition From Object to Subject of Rights*

i. *Objects personne par destination.* Organ grafts are the most typical example of a human material, the object which is incorporated in the recipient's person, the subject.[167] Spermatozoids used in artificial insemination and the reimplanted preembryo after in vitro fertilization are other examples.[168] All these materials are *personne par destination* as described previously, and become incorporated in the recipient's person. In these cases, the incorporation is generally voluntary, sanctioned by consent in medical situations. Admittedly, identifying these integrations as transitions from object to subject is not completely adequate because the object loses its legal identity following the transition and its merging with the subject.

---

165. In this context, "human being" is understood in its most immediate sense.

166. Organs legally disappear upon transplant in the recipient.

167. See *supra* Part II.C.2 for discussion.

168. In contrast, the feconding spermatozoid in the traditional reproductive process never becomes an object. It goes from being a man's body part to a woman's body part.

ii. *Birth from a deceased woman.* Birth from a deceased woman presents another situation. Although the deceased woman is classified as an object of rights, she can potentially give birth to an infant, who is a subject of rights. This situation is unique because the transformation from object to subject occurs not through incorporation with the existing subject, but by the creation of an entirely new subject.[169] For this reason, it is not surprising that the system recognizes a special legal status for pregnant dead women as opposed to other objects of rights. This status is discussed in Part IV.

Normal birth cannot qualify as a passage from object to subject because as a *pars mulieris,* the fetus is considered a part of the person of his mother. Legally speaking, the birth constitutes a split of one subject into two subjects.

2. *Transition from Subject to Object*

i. *Death.* Death is the most typical transition from subject to object. During the death process, a subject, the person, becomes an object, the dead body. Generally, the transition is involuntary. The irremediable character of suicide obviously limits, however, external incentives such as economic rewards to commit the act.[170]

ii. *Separation from a surviving person.* In other situations, the subject survives the creation of the object his person yields: milk, hair, nails, abortions, graft harvesting from living donors, blood and sperm collection, amputations, and surgery waste. These situations are more likely to raise problematic property issues; the severance of a body part from a surviving person is more likely to be noticed than when it occurs with a brain dead or other dead body. Moreover, the person who survives, not her mourning relatives, is more likely to enforce her rights if violated.[171] *Moore v. Regents of University of California* is an example of this.[172]

If the person knows in advance she will survive the removal, economic incentives can motivate her to consent to the procedure. Although most organ transfers occur post-mortem, the same incentive exists to motivate the decedent's

---

169. As noted earlier, the brave new world figure of an artificial womb would permit the same result.

170. Nevertheless, an incentive could be the payment of life insurance to the next of kin. Accordingly, most insurance policies exclude suicide as a covered event during the first years after the policy's issuance. 1 WARREN FREEDMAN, RICHARDS ON THE LAW OF INSURANCE § 5:8 (6th ed. 1990).

171. Decedents' relatives sometimes try, however, to enforce such rights. See *State v. Powell,* which involved a suit by the parents of an auto accident victim whose corneal tissue was removed without obtaining consent. State v. Powell, 497 So. 2d 1188 (Fla. 1986), *cert. denied,* 481 U.S. 1059 (1987).

172. Moore v. Regents of Univ. of Cal., 249 Cal. Rptr. 494 (Cal. App. 1988), *modified by,* 763 P.2d 479 (Cal. 1988), *aff'd in part and rev'd in part,* 793 P.2d 479 (Cal. 1990), *cert. denied,* 499 U.S. 936 (1991).

relatives who are empowered to consent.[173] In order to limit that type of motivation in organ transfers, organ sales are generally prohibited.[174]

Involuntary severance of body parts can occur accidentally or by the willful action of a third party, but it is unlikely to yield useful or valuable human materials. Nevertheless, unscrupulous individuals sometimes harvest—against the donor's will—valuable organs and tissues. Cases involving adults and children have been reported in Europe, Central America and Asia.[175] Undoubtedly, the practice should remain forbidden by laws protecting the person and not the property.

When the body part is severed with the person's consent, it generally occurs in the context of a physician-patient relationship.[176] Informed consent allows breaches in bodily integrity in defined circumstances, primarily during the course of medical treatments, and secondarily in medical experimentation. Nevertheless, the functions and context of informed consent will most likely expand in the near future. With the growing interest in human materials per se, the same act can have concomitant purposes—a medical treatment and a research interest.[177] Potential conflicts between these interests should be fully disclosed while obtaining informed consent.[178] The notion of full disclosure is, however, not a new concept. As early as 1981, Arnold Rosoff wrote "where organs or tissue excised from the patient are to be used for research, education, or transplantation, specific consent should be obtained, even though the tissue in question might otherwise be discarded."[179] By extension, according to the rules of informed consent, any potentially conflicting interest concomitant to medical treatment should be disclosed. Only extended disclosure informs the patient of

---

173. Informed consent can be given either by the deceased before death or by his next of kin. The last version of the Uniform Anatomical Gift Act (UAGA) requires only that reasonable efforts to obtain informed consent be made. UNIF. ANATOMICAL GIFT ACT § 4(a)(2), 8A U.L.A. 43 (1987).

174. National Organ Transplantation Act 42 U.S.C. § 274e(a) (1988).

175. *See* Maria N. Morelli, *Organ Trafficking: Legislative Proposals to Protect Minors*, 10 AM. U. J. INT'L L. & POL'Y 917-926 (1995); Allison K. Owen, *Death Row Inmates or Organ Donors: China's Source of Body Organs for Medical Transplantation*, 5 IND. INT'L & COMP. L. REV. 495-97 (1995).

176. Voluntary removals usually occur in a medical context. For the hair dresser, for example, consent has the same waiving function for penal and tort law. In an English case, a defendant was convicted of larceny for cutting hair from a woman's head without her consent. It is not clear whether the judges took the view that growing hair could be stolen, or whether this hair was stolen after having been cut. *See* Paul Matthews, *Whose Body? People as Property*, 36 CURRENT LEGAL PROBS. 193, 224 (Lord Lloyd of Hampsted et al., eds., 1983).

177. *See* Moore v. Regents of Univ. of Cal., 249 Cal. Rptr. 494 (Cal. App. 1988), *modified by* 763 P.2d 479 (Cal. 1988), *aff'd in part and rev'd in part*, 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991).

178. *See* Helen R. Bergman, *supra* note 2, at 128; Jennifer Lavoie, *Ownership of Human Tissue: Life after* Moore v. Regents of the University of California, 75 VA. L. REV. 1363, 1389 (1989); Tanya Wells, *The Implications of a Property Right in One's Body*, 30 JURIMETRICS J. 371, 374 (1990).

179. Arnold J. Rosoff, INFORMED CONSENT: A GUIDE FOR HEALTH CARE PROVIDERS 254 (1981).

the potential nonmedical agreements contained within informed consent. The rules of informed consent apply in cases of standard medical treatment. These rules work well in the context of simple medical treatments. Their suitability becomes questionable, however, in complex transactions involving multiple goals and interests. Accordingly, the complex relationship between body-related contracts and informed consent must be clarified in the future.[180] Body-related agreements and informed consent can be limited by the principle of nonavailability of the human body.

B. *The Antagonistic Governing Principles of the Voluntary Subject-Object Transition: Self-Determination and the Unavailability of the Human Person*

An important distinction must be made between the voluntary transition from subject to object of rights and the alienation of objects after the separation from the person. Although the underlying concerns of protecting the dignity and the integrity of persons are the same in both situations, the governing principles are different. The principles applied to objects of rights—material separated from the body—usually assume the form of property rights. Accordingly, the relevant issues relate to the various "property sticks" one can have with objects, such as possession, disposition—including inalienability, gift-alienability and market-alienability—exclusion, and their modalities.[181] Conversely, when objects do not yet exist because they are still embodied in the person, the governing principles are those related to the person. In such cases, the relevant issues are self-determination, autonomy, and unavailability of the human body. The distinction is important because the human person is the gatekeeper for human materials. If suitable control of the human source—the person before the separation—was readily available, control over the market for human materials after their separation from the person would no longer be necessary.

The classical general theory of the law views the person as totally unavailable—neither life nor death are at the disposal of the person. The prerogatives the person has on her body cannot be qualified as rights, but are purely factual. For example, Savigny could not accept suicide as legally legitimate due to this principle of unavailability.[182] The notion of total unavailability is further influenced as the doctrine discovered conventions whose object was the human body.[183] Examples of such conventions include photo-modeling, remunerated medical experimentation, prostitution, circus dwarfs, monsters when the main reason of their participation is the exhibitions of deformities, sale of hair, sale of blood, and so forth. The principle of unavailability limits consent to medical interventions

---

180. The notions of informed consent and contract are probably not as irreconcilable as it may appear at first glance. Civil law systems usually frame informed consent and other medical liabilities in a contractual context. One reason is continental courts generally cannot award punitive damages in tort law.

181. *Cf. infra* Part IV.

182. See Xavier Dijon, *Le Sujet de Droit en son Corps; Une Mise à l'Epreuve du Droit Subjectif*, NAMUR-BRUXELLES 61 (1982) for a thorough description of Savigny's position.

183. *See, e.g.*, NERSON, LES DROITS EXTRA-PATRIMONIAUX, THÈSE (Paris 1939).

and the making of various contracts involving the body.[184] This limit on the effectiveness of consent has surfaced in both criminal and civil law.[185] Criminal law limits the effectiveness of consent to exculpate criminal liability for breaches of bodily integrity.[186] The typical case involves assisted suicide.[187] Similarly, consenting to medical treatment resulting in more harm than good may subject the doctor who prescribed the treatment to criminal liability.[188] Early on, English law limited the legality of contracts involving immoral or illicit purposes—for example, the extreme breach of one's bodily integrity.[189] The principle of unavailability can be viewed as state interdiction for the sacrifice of the bodily integrity based on altruism, economics, or no detectable reason.[190] Accordingly, a gift from a living person of both her kidneys would certainly be considered immoral, even if performed for altruistic reasons.

Limits to the availability of the person are challenged by other modern values. Currently, autonomy and self-determination are of paramount importance to the relationship between the person and her body. There are various signs of this evolution. Suicide is no longer criminal in most of the United States[191] and some argue for the legalization of assisted suicide.[192] The legalization of abortion is another sign of the growing mastery over one's body. The principle of "self-

---

184. It is a basic principle of contract law that perfomance is excused if the subject matter of the contract becomes unavailable. W. ANSON, PRINCIPLES OF THE ENGLISH LAW OF CONTRACT 315 (1879).

185. *See, e.g.*, State v. Brown, 364 A.2d 27, 30 (N.J. Super. 1976) (finding a victim's consent to an assault is no defense for the perpetrator); Cardwell v. Bechtol, 724 S.W.2d 739, 746 (Tenn. 1987) (stating the performance of a surgical operation on an individual without consent constitutes a technical battery or trespass).

186. *See* John H. Derrick, Annotation, *Criminal Liability for Death of Another as Result of Accused Attempt to Kill Self or Assist Another's Suicide*, 40 A.L.R.4th 702 (1995).

187. *Id.*

> Defendants have been held liable for murder where the individual attempt at suicide resulted in the unintended death of another, where in assisting another to commit suicicde, they carried out the physical act resulting in the death of the deceased, and where they either encouraged or supplied the means for another to commit suicide. In other cases, the unintended death of a nonparticipant in a suicide attempt and the death of a person whose suicide was aided by the defendant have resulted in convictions for manslaughter.

Id. at 704-05.

188. *See* Donald C. Barrett, Annotation, *Homicide Predicated on Improper Treatment of Disease or Injury*, 45 A.L.R.3d 114 (1995).

189. Hall v. Wright, 120 Eng. Rep. 695 (Ex. Ch. 1859).

190. Sacrifice is a nonbalanced loss. When bodily integrity is highly regarded in society, no other individual value is worth enough to sacrifice it: idealism, money, or anything else. The balance evaluation can, however, change with societal values.

191. Benjamin P. Fay, Note, *The Individual Versus Society: The Cultural Dynamics of Criminalizing Suicide*, 18 HASTINGS CONST. L.Q. 591, 613 (1995).

192. *See* Timothy E. Quill, *Death and Dignity*, 324 NEW ENG. J. MED. 691 (1991). For example, the Netherlands' legal system tolerates euthanasia without formally legalizing it. The controversy that surrounds Dr. Kevorkian, who advocates assisted suicide in the United States, further exemplifies this trend.

determination" allows the patient to determine her own best interests, without referencing external values or any clearly articulated upper limit on this right.[193] Should the legal system permit breaches of bodily integrity because they are an exercise of self-determination? This query pertains to the controversy arising in personal rights law: Are individual rights true rights of a subject, including the faculty to renounce or dispose of them, or mere interests that are only negatively protected and prevent third parties from breaching another's bodily integrity?[194]

A current analysis shows personal rights relating to the body are readily available to the person. Today, the nebulous and undetermined notions of immorality or incompatibility with the public order are the only barriers limiting an individual's autonomy to make decisions affecting her own body. This also applies to the willful separation of body parts. This evolution is more consistent than it appears at first glance. After all, the state has no more reason to prevent a person from donating two kidneys than it has to forbid people from smoking cigarettes, working in unhealthy environments, engaging in risky sexual activities, or subjecting their cerebral cortex to abuse in a boxing ring. The very fact that donated kidneys would benefit a third party is irrelevant—the sale of tobacco, available labor, and boxing matches also benefit third parties.

In summary, the current law is unclear about the limits imposed on the autonomy of the person to make decisions affecting her own body. As a result, the law focuses mostly on regulating the product. In the absence of a general legal theory describing the relationship between the person and her body, classifications for various human materials will inevitably multiply in order to deal with their specific features.

IV. HUMAN OBJECTS IN THE LEGAL SYSTEM

This section deals with human materials that are not subjects, but objects of rights. The unifying characteristic of objects of rights in a legal system is their propensity to be owned, in other words, to be the object of property rights. Due to their material and symbolic proximity to the human person, most human objects have not been subject to the entire bundle of property rights. Although this situation persists today, current biomedical advances promoting new uses for human materials push toward the full application of property concepts to objects of rights.

Debate surrounding the ownership and property of human objects is often confusing because the term "property" is widely applicable. Due to its one word definition, property is often understood as a monolithic entity rather than a bundle of distinct and separable rights. Moreover, no consensus exists regarding

---

193. WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 1067 (1985).

194. As developed in F. OST, ENTRE DROIT ET NON-DROIT: L'INTÉRÊT, (Bruxelles 1990); *see* XAVIER DIJON, LE SUJET DE DROIT EN SON CORPS, UNE MISE À L'EPREUVE DU DROIT SUBJECTIF, NAMUR-BRUXELLES 61 (1982). The problem arises from the conception of personal rights as a shield against third parties, which ignores the aspects of potential reflexive harm by the right's bearer. As a result, the links between personal rights and reflexive acts of the person herself should be clarified.

what is sufficient to constitute the minimal bundle of rights necessary for "property." This confusion undoubtedly complicates the debate.

European civil law systems define property rights as including the total and exclusive mastery of an object. These legal systems distinguish and verbalize the different components of property rights.[195] The concept of property includes: "(1) a right of possession *(jus possidendi)*; (2) a right of exclusion *(jus prohibendi)*; (3) a right of disposition *(jus disponendi)*; (4) a right of use *(jus utendi)*; (5) a right to enjoy fruits or profits *(jus fruhendi)*; and (6) a right of destruction *(jus abutendi)*."[196] Generally, human materials do not incorporate the full panoply of property. As a result, it is important to distinguish these various components to accurately measure the extent of the existing rights.[197] Anglo-American law recognizes the very same concepts,[198] generally qualifying them as rights, privileges, powers, and immunities.[199]

Roman law includes another interesting notion regarding human materials. This is the notion of *res extra commercium*, a category of cultural materials incapable of becoming private property—that is, materials for which no property "stick" is available.[200] This class of objects represents the conceptual opposite to property rights. This concept is discussed with the legal status of brain-dead pregnant women.

Generally, current laws address or grant only one or a few of the sticks of the bundle of property rights for most categories of human objects. For example, the American common law quasi-property right conferred on a deceased body grants only partial rights of possession, disposition, and exclusion.[201] Thus, one faced with the legal status of human materials may be struck more by their lacunas than by their features. Several reasons assist in the explanation of this situation.

First, the handling of human materials has always inspired moral concerns. The law, which to a certain extent reflects prevailing moral values, restricts the rights a person can have with respect to a human material. Obviously, moral concerns depend on current societal values and are susceptible to change.

---

195. For example, Anglo-American authors refer to the "sticks" or "twigs," which compose a bundle of rights.

196. ROGER A. CUNNINGHAM ET AL., THE LAW OF PROPERTY § 1.2 (1984).

197. This strategy of "conceptual severance," as Professor Radin calls it, is certainly not the absolute panacea—each "twig" can be further subdivided. Margaret J. Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1674-78 (1988).

198. "Classical liberal conception of property embraces a number of broad aspects or indicia, often condensed to three: the exclusive rights to possession, use, and disposition." *Id.* at 1677.

199. RESTATEMENT OF PROPERTY §§ 1-4 (1936); *see* Roy Hardiman, *Toward the Right of Commerciality: Recognizing Property Rights in the Commercial Value of Human Tissue*, 34 UCLA L. REV. 207, 218 (1986); ROGER A. CUNNINGHAM ET AL., *supra* note 196, § 1.2.

200. LORD MACKENZIE, STUDIES IN ROMAN LAW: WITH COMPARATIVE VIEWS OF THE LAWS OF FRANCE, ENGLAND, AND SCOTLAND 167-70 (1886).

201. *See* JOHN E. CRIBBET, PRINCIPLES OF THE LAW OF PROPERTY 133 (2d. ed. 1975).

Second, there must be a need to create a legal device. Property rights in a liberal setting protect an interest in value, which is based on utility and scarcity. For centuries, the significance of human objects was only of a moral nature.[202] This moral interest was not counterbalanced by any pressure arising from pragmatic uses of these materials.[203] Human materials served only marginal utility, mostly involving hair for wigs, teeth for prostheses, and corpses for the study of medicine.[204] As a result, there was no need for any legal solution of property issues beyond these limited uses. Most human materials proved useless and worthless and there existed no pressing need for property rights in worthless things. Moreover, several categories of human materials produced by recent technological advances, such as the "biologically alive" but brain-dead body, were unknown at the time.

Third, solutions to questions regarding human materials essentially evolved on a case-by-case basis.[205] Human material garnered attention only as moral values such as human dignity materialized.[206] As such, human material *per se* seemed somewhat "peripheral." Beyond its moral significance, the human material itself was regarded as disgusting and worthless junk.[207] Accordingly, legal institutions developed piecemeal solutions; this approach rarely provided well-reasoned and integrated results.[208]

The utility and availability of human materials has, however, increased dramatically as a result of recent technological developments.[209] Society has discovered that human materials are a useful and even vital resource. Simultaneously, society discovered these materials are also scarce and difficult to acquire. Utility and scarcity enhance the value of materials once considered worthless. As a result, issues concerning property rights arise with unexpected acuity.

---

202. *See infra* text accompanying notes 232-33.

203. *See infra* text accompanying notes 263-68.

204. Throughout history, one of the most important uses for human materials taken as objects of rights has been slavery. Noting that slavery treats subjects as objects, the current international definition of slave is "a person over whom any or all of the powers attaching to the right of ownership are exercised." Russell Scott, *The Human Body: Belonging and Control*, 22 TRANSPLANTATION PROCEEDINGS 1002, 1003 (1990) [*hereinafter Human Body*].

205. *See, e.g.*, Jennifer Lavoie, Note, *Ownership of Human-Tissue: Life After* Moore v. Regents of the University of California, 75 VA. L. REV. 1363 (1989) (discussing property right theories developed concerning human tissue).

206. *See, e.g.*, Anthony R. LoBiondo, Note, *Patient Autonomy and Biomedical Research: Judicial Compromise in* Moore v. Regents of the University of California, 1 ALB. L.J. SCI. & TECH. 277, 304 (1991).

207. *See* Lloyd R. Cohen, *Increasing the Supply of Transplant Organs: The Virtues of a Futures Market*, 58 GEO. L.J. 1 (1990).

208. *See, e.g.*, Eric C. Sutton, *Giving the Gift of Life: A Survey of Texas Law Facilitating Organ Donation*, 22 ST. MARY L.J. 959 (1991).

209. *See, e.g.*, Melissa N. Kurnit, Note, *Organ Donation in the United States: Can We Learn From Successes Abroad?*, 17 B.C. INT'L & COMP. L. REV. 405, 407 n.17 (1994) (discussing increased preservation times for removed organs).

A nearly inextricable array of laws addressing different issues regarding human materials and their different purposes presently exists. This patchwork of legal sources includes laws concerning cadavers and autopsies, cemeteries, human waste disposal, public health, transplantation,[210] blood and semen sales,[211] patents,[212] informed consent,[213] human experimentation,[214] and more generally, constitutional, property, and family law.[215] This heterogeneous enumeration underscores the difficulties of a systematic description of the law of human materials. In spite of this complex array of laws, courts have examined the legal status of only a few types of human materials.[216]

The classification of human objects of rights described in the next section distinguishes between whole dead bodies and body parts. Such categorizations are, however, inevitably subjective and imperfect.

A. *Whole Dead Bodies*

The most important United States statute on human materials, the Uniform Anatomical Gift Act (UAGA), deals with whole dead bodies and their parts.[217] Such a distinction is relevant in at least two respects. First, the whole human body retains the shape of the human person for a long time. Although not legally relevant, the persistence of the human shape makes survivors perceive the transition of a deceased body from subject to object as a slow process rather than an abrupt one, as the law does. For this reason, the whole dead body inspires more intuitive and spontaneous respect than any other human material.[218] Second,

---

210. *See, e.g.*, Human Tissue Intended for Transplantation, 21 C.F.R. § 1270 (1995) (setting forth regulations governing transplantation of banked human tissue).

211. U.S. CONGRESS OFFICE OF TECHNOLOGY ASSESSMENT, NEW DEVELOPMENT IN BIOTECHNOLOGY: OWNERSHIP OF HUMAN TISSUES AND CELLS—SPECIAL REPORT OTA-BA 337, 25-26 at 130 (1987).

212. *See* 35 U.S.C. § 101 (1994).

213. *See* Moore v. Regents of Univ. of Cal., 793 P.2d 479, 483 (Cal. 1990), *cert. denied*, 449 U.S. 936 (1991).

214. BERNARD D. REAMS, JR. & CAROL C. GRAY, HUMAN EXPERIMENTAION: FEDERAL LAWS, LEGISLATIVE HISTORIES, REGULATIONS AND RELATED DOCUMENTS 35 (1986).

215. *See, e.g.*, Whaley v. County of Tuscaloosa, 58 F.3d 1111 (6th Cir. 1995); Brotherton v. Cleveland, 923 F.2d 477 (6th Cir. 1991).

216. *See, e.g.*, Moore v. Regents of Univ. of Cal., 793 P.2d 479, 489-96 (Cal. 1990), *cert. denied*, 449 U.S. 936 (1991) (legal status of human cells); Davis v. Davis, 842 S.W.2d 588, 602 (Tenn. 1992), *cert. denied sub nom*, Stowe v. Davis, 507 U.S. 911 (1993) (legal status of frozen embryos).

217. UNIF. ANATOMICAL GIFT ACT § 1(1), 8A U.L.A. 29 (1987). "Anatomical gift means a donation of all or part of a human body . . . ." *Id.* Most states have adopted the 1968 version or some variation of the statute. *See id.* at 31-33 (1993).

218. The respect inspired by human organs and other human materials is of different nature: it is generally more a respect for human dignity than for the dignity of a specific deceased person.

whole human bodies have fewer practical uses than body parts. As a result, they are treated less as commodities.[219]

This article draws a distinction between bodies that are biologically dead and bodies that are alive, but legally dead. At first glance, this may appear as an insubstantial distinction because biologically dead individuals are also legally dead. Practice shows, however, current laws distinguish between legally dead bodies depending on whether they are biologically alive or dead.

1. *"Biologically Dead" Dead Bodies*[220]

For centuries, the terms "dead body" or "cadaver" were understood to mean a biologically dead body. Society's interest in these corpses stemmed mostly from its moral interest in preserving the dignity of the deceased person and the interest of relatives. The potential commercial value of these dead bodies was limited mainly to medical schools for anatomical training.[221] As a result, British common law on cadavers developed the meaning biologically dead bodies and aimed to protect moral values.[222]

The classic maxim at British common law was that no property interest in cadavers existed.[223] One early author classified them as objects belonging to no one; they were among those objects sacred to God "such as are churchyards, burial-places, churches, chapels, and other sacred places."[224] Scholars have offered no further justification of the "no property" rule. Some attribute it to the competency differences between common law and ecclesiastical courts.[225] If the dead body belonged to "ecclesiastical cognizance," then common-law courts could not intervene.[226]

Although in early America ecclesiastical courts did not exist, American courts adopted the "no property" rule from the British common law.[227] The rule prohibited possessory rights in dead bodies.[228] The dead body remained a *res*

---

219. Admittedly, a biologically alive whole dead body could be dismembered into separate parts and hence have a practical use. For further discussion of dismemberment see *infra* Part III.2.B.

220. This author defines a biologically dead body as a body in which all individual cells are dead, that is, cells in which all metabolic processes have ceased.

221. SCOTT, *supra* note 3, at 4-7. The "anatomical" commercial value of corpses has not always, however, been negligible. At the beginning of the nineteenth century in England, their value was sufficiently important for medical schools to elicit the practice of "body snatchers." *Id.* at 5. Body snatchers generally dug up newly buried corpses. *Id.* Some body snatchers killed others in order to sell their bodies. *Id.* Body snatching ended with the English Anatomy Act of 1832, which set a procedure by which anatomy schools could obtain corpses. *Id.* at 4.

222. Matthews, *supra* note 176, at 208, 210.

223. *Id.* at 198.

224. *Id.*

225. *Id.*

226. "The burial of the cadaver is *nullius in bonis*, and belongs to Ecclesiastical cognizance." *Id.* (citations omitted).

227. *Id.* at 200-01.

228. *Id.* at 201.

extra commercium, devoid of any property rights. After 1800, American courts recognized the harsh consequences of the no property doctrine and subsequently granted family members the right to possess the corpse for burial purposes.[229] Since that time, most cases have dealt with the rights of the decedent's family.[230] Only a few cases dealt with the testamentary rights of the decedent's body.[231]

Claims by the decedent's family were the driving force behind new developments in the law encompassing biologically dead bodies. The law has not been entirely clear, however, whether the rights granted to relatives can also be granted to other parties. This Article attempts to distinguish between the rights of family members, the decedent, and third parties.

i. *Rights of the relatives.* Recognizing that the no property rule produced unjust results, common-law courts embarked on a winding course to expand the rights of family members to the decedent's body.[232] One court declared "the fact that a person has exclusive rights over a body for the purposes of burial leads necessarily to the conclusion that it is his property in the broadest sense of the term."[233] Courts have since described the right of the family a quasi-property right.[234]

The scope of "quasi-property" rights of family members is limited to the right to possess and guard the decedent's remains for burial purposes,[235] the right to have the corpse remain in its final resting place,[236] the right to have it buried where the closest relative wants,[237] the right to refuse an autopsy,[238] the right to prevent the removal of body parts,[239] and the right to recover damages for any outrage, indignity, or injury to the body of the deceased.[240] Courts have held that family members and personal representatives may bring an action in trespass

---

229. *Id.* at 201-02.
230. *Id.* at 202.
231. *Id.* at 203-04.
232. *Id.* at 202.
233. Larson v. Chase, 50 N.W. 238, 239 (Minn. 1891).
234. Matthews, *supra* note 176, at 201-02.
235. *See* Dougherty v. Mercantile-Safe Deposit & Trust Co., 387 A.2d 244, 246 (Md. 1978) (stating "[r]ights in a dead body exist ordinarily only for purposes of burial and, except with statutory authorization, for no other purpose") (quoting Snyder v. Holy Cross Hosp., 352 A.2d 334, 340 (Md. 1976)); *see also* Spiegel v. Evergreen Cemetary Co., 186 A. 585, 586-87 (N.J. 1936) (holding that family members have the right to bury the dead and preserve the remains which is a quasi-right in property); Floyd v. Atlantic Coast Line Ry. Co., 83 S.E. 12, 13 (N.C. 1914) ("[T]he right to bury a corpse and preserve its remains is a legal right which courts will recognize and protect.") (citations omitted).
236. Pierce v. Proprietors of Swan Point Cemetery, 10 R.I. 227 (1872).
237. Weld v. Walker, 130 Mass. 422 (1881); Grinnan v. Fredericksburg Lodge, 88 S.E. 79 (Va. 1916) (recognizing the right of the family, but denying it on the facts because the grave was neglected).
238. Grad v. Kaasa, 314 S.E.2d 755, 758 (N.C. Ct. App. 1984), *rev'd* 321 S.E.2d 888 (N.C. 1984).
239. Georgia Lions Eye Bank, Inc. v. Lavant, 335 S.E.2d 127, 128 (Ga. 1985), *cert. denied*, 475 U.S. 1084 (1986).
240. Bennett v. 3C Coal Co., 379 S.E.2d 388, 392 (W. Va. 1989).

under such circumstances.[241] Relatives have, however, no right to sell the cadaver.[242]

These rights are recognized as a limited form of the possession, disposition, and exclusion "sticks" of the property bundle. Several courts have declared that these rights, however, are not constitutionally protected, that is, they represent neither a property nor liberty interest.[243]

The quasi-property rule developed primarily during the period in which courts did not award damages to family members for emotional distress.[244] Once courts recognized emotional distress as a compensable tort, actions by family members have been characterized as tort rather than property disputes.[245]

In addition to these common-law developments, the Uniform Anatomical Gift Act of 1987 (UAGA)[246] provides family members with statutory rights to the decedent's body when the decedent leaves no directive concerning his remains.[247] In such circumstances, the relative can donate the decedent's body. Gift recipients are limited to certain individuals in the medical profession and for certain purposes, including transplantation, therapy, education, research, and the advancement of science.[248] Obviously, transplantation and therapy purposes are impermissible for whole body gifts. Accordingly, these aspects are discussed in section IV(B), which is dedicated to body parts. The UAGA does not explicitly

---

241. Larson v. Chase, 50 N.W. 238, 238 (Minn. 1891).

242. *See* Dougherty v. Mercantile Safe-Deposit & Trust Co., 387 A.2d 244, 246 n.2 (Md. 1978) ("It is universally recognized that there is no property in a dead body in a commercial or material sense.").

243. *See* State v. Powell, 497 So. 2d 1188, 1191-93 (Fla. 1986) (holding statute authorizing medical examination to remove corneal tissue from decedent during statutorily required autopsy is constituional), *cert. denied*, 481 U.S. 1059 (1987); Georgia Lions Eye Bank, Inc. v. Lavant, 335 S.E.2d 127, 128 (Ga. 1985) (holding common-law right of mother to bury daughter without mutilation was not encompassed by the constitutional right of privacy), *cert. denied*, 475 U.S. 1084 (1986); Tillman v. Detroit Receiving Hosp., 360 N.W.2d 275, 277-78 (Mich. Ct. App. 1984) (holding statute authorizing removal for transplant of corneal tissue of decedents, if no objection is made by decedents or next-of-kin, is constitutional).

244. *See generally* Matthews, *supra* note 176, at 202-03 (discussing cases from the late 1800s).

245. *See, e.g.*, Kirker v. Orange County, 519 So. 2d 682, 684 (Fla. Dist. Ct. App. 1988) (regarding a county medical examiner who removed organs from a dead person without her prior consent or the consent of her next-of-kin); Carney v. Knollwood, 514 N.E.2d 430, 432 (Ohio Ct. App. 1986) (discussing the historical basis for prohibiting interference with a family's right to bury the deceased and the tort of intentional infliction of emotional distress).

246. UNIF. ANATOMICAL GIFT ACT §§ 1-17, 8A U.L.A. 29-62 (1987). Most states have adopted the 1968 version or some variation. The UAGA addresses the issue of testamentary anatomical gifts and sought to assure an adequate supply of transplantable organs. While the 1968 enactment required explicit consent of the decedent, family members, or guardian, the 1987 version requires only that the authorities make reasonable efforts to obtain such consent. *Id.* § 3(a), 8A U.L.A. 40.

247. *Id.* § 6, 8A U.L.A. 53.

248. *Id.*

ban the sale of whole bodies. Common law does however, prohibit such a transaction.[249]

Balancing the common-law doctrine and the jurisprudence between property and tort concepts is worthy of comment. On one hand, if the problem is framed in terms of property concepts, the adoption of a "personhood" analysis of property is necessary.[250] According to Professor Radin, a person bound up with an external "thing" should be afforded a broad liberty interest with respect to her control over that thing.[251] The broad liberty interest recognized in this instance is property.[252] In the context of rights of relatives, affectional bonds linking the decedent with surviving family members warrant giving the family property interests in the decedent's body.

On the other hand, if the problem is framed as a tort injuring the rights of relatives, then the logical framework is similar to the previous analysis made for attached body parts.[253] Mutilating or mishandling a dead body is a tort injuring the relative, as if the decedent's body was a *personne par destination* of the relative. In this case, the affectional bonds serve as a conceptual incorporation of the decedent's body into the person of the relative.

Both solutions aim to protect the personal interests of the relatives with comparable efficiency. The two approaches differ in that the recipient of the legal protection in the tort approach must invariably be a relative of the decedent.[254] The property approach, however, protects individuals who are not related to the deceased. Although the party most interested in a dead body is usually a relative, the property approach affords a greater opportunity for potential development involving third-party interests in dead bodies.

The UAGA adds a stick to the bundle of rights already granted by common law—namely, the relative's right to dispose of the body for purposes other than burial.[255] The UAGA represents a means of obtaining this right because "rights in a dead body exist ordinarily only for purposes of burial except statutory authorization."[256]

In summary, the common law and the UAGA both grant limited rights of possession, disposition, and exclusion in regard to whole human bodies. Moreover, these rights may be further restricted by other interests, such as the concern for public sensibility, public health, medical or legal purposes, and the economic interests of insurers.

ii. *Rights of the decedent.* Despite the paucity of case law references directly addressing the subject, the rights of the decedent are parallel to those of

---

249. *See* Dougherty v. Mercantile-Safe Deposit & Trust Co., 387 A.2d 244, 246 n.2 (Md. Ct. App. 1978) ("[T]here is no property in a dead body in a commercial or material sense.").

250. Radin, *supra* note 24, at 957.

251. *Id.* at 986.

252. *Id.*

253. *See In re* Johnson, 612 P.2d 1302, 1305 (N.M. 1980).

254. *See id.* at 1305.

255. *See* UNIF. ANATOMICAL GIFT ACT § 3, 8A U.L.A. 29, 40 (1987).

256. Dougherty v. Mercantile-Safe Deposit & Trust Co., 387 A.2d 244, 246 n.2 (Md. Ct. App. 1978).

the relatives.[257] These rights primarily include the right to direct—to a certain extent—one's funeral and burial.[258] Moreover, both common law and UAGA recognize the priority of the decedent's wishes over those maintained by relatives. In *In re Moyer*,[259] the Supreme Court of Utah held the interest of a person in her body and organs is of such a nature that the person should be able to make a binding disposition recognizable after death, as long as the disposition is "within the limits of reason and decency as related to the accepted customs of mankind."[260] The UAGA allows family members to make gifts only "where the decedent has not previously made her wishes known."[261] Common law also prohibits the sale of the decedent's body.[262]

Upholding the rights of the deceased appears natural if the acts relating to burial and anatomical gifts are thought of as a testamentary enunciation of self-determination and autonomy. When the autonomy rights of the deceased conflict with the wishes of his relatives, the decedent's personal representative can bring an action to uphold the decedent's wishes. The appropriate remedy may be an injunction, for example, to return the body to its original resting place. In this context, an action seeking monetary damages based in tort would likely be pointless. Although the decedent's rights were violated, the decedent has no measurable damages. Similarly, damages based on the violation of a property-based right in the body are possible, but would not make sense in this context because they would be awarded to the estate of the decedent, which is the opposing party.

iii. *Rights of third parties.* The UAGA grants the right to make an anatomical gift to "the guardian of the person of the decedent at the time of his death,"[263] even when neither the decedent nor her close relatives listed in the UAGA have articulated wishes. In doing so, the UAGA grants a guardianship when the relatives are not available; the guardian ensures the autonomy of the decedent or the representation of the decedent's or her relative's interests.[264]

Third parties may have rights in dead bodies by virtue of state autopsy law expressly reserved by the UAGA.[265] Several of these statutes authorize the removal of corneas or pituitary glands from dead bodies on the basis of presumed

---

257. *See* Frank D. Wagner, Annotation, *Enforcement of Preference Expressed by Decedent as to Disposition of His Body After Death*, 54 A.L.R.3d 1037 (1974).

258. *Id.* at 1040-41.

259. *In re* Moyer, 577 P.2d 108 (Utah 1978).

260. *Id.* at 110.

261. UNIF. ANATOMICAL GIFT ACT § 3(a), 8A U.L.A. 29, 40 (1987).

262. Apparently this was not the case in Sweden in 1890, when a man in need of money sold the rights to his body after death to the Royal Caroline Institute. SCOTT, *supra* note 3, at 185. He later tried to refund the price and cancel the contract. *Id.* The court held that he was required to turn his body over to the Institute and pay damages for the two teeth he had removed, which diminished the value of his body. *Id.*

263. *See* UNIF. ANATOMICAL GIFT ACT § 3(a)(6), 8A U.L.A. 29, 40 (1987).

264. *See* Paul M. Quay, *Utilizing the Bodies of the Dead*, 28 ST. LOUIS U. L.J. 889, 891-95 (1984) (arguing allowing relatives or the guardian to make donations without knowledge of any objection by the decedent to the contrary is an inappropriate presumption of consent).

265. *See* UNIF. ANATOMICAL GIFT ACT § 11(c), 8A U.L.A. 29, 59 (1987).

consent. If the coroner knows of no explicit objection by the deceased or the next-of-kin, corneas or pituitary glands can be removed without further inquiry.[266] These statutes have survived several constitutional challenges.[267] According to the courts, the quasi-property right of the deceased, or more often his surviving relatives includes the right to prevent the removal of body parts absent a compelling state interest.[268] For example, a compelling state interest may include medico-legal samplings necessary to a crime investigation,[269] or providing the gift of sight to the blind,[270] but not a general interest in transplantation. A third party, however, has no right to hold a corpse to enforce a debt.[271] This clarifies the limited content of the exclusion "stick" of the bundle of rights.

iv. *Atypical cases*. The extent of the rights available to "biologically dead" dead bodies is strictly limited. There are, however, specific exceptions to this rule. In certain special circumstances, human remains are afforded the complete bundle of property rights and related remedies. An examination of the specific features of these exceptional cases should help the reader understand the reasons for limiting the rights related to dead bodies. Anatomical specimens, skeletons, and mummies exemplify typical cases. Individuals can buy and own a human skeleton.[272] Egyptian mummies are considered property of the museums that own them. Embalmed corpses of national leaders and conserved anatomical specimens are less clear examples. An Australian superior court admitted there could be property in the conserved body of a two-headed stillborn child.[273]

What characteristics make these human remains susceptible to being considered property? Several interrelated elements are readily apparent. First, an important factor is the time elapsing after the death of the human person. For example, an aging cadaver or mummified remains do not invoke the same senti-

---

266. For a thorough discussion of the differences in requirements for consent of both versions of UAGA, as well as state autopsy laws, see Erik S. Jaffe, *"She's Got Bette Davis's Eyes": Assessing the Nonconsensual Removal of Cadaver Organs Under the Takings and Due Process Clauses*, 90 COLUM. L. REV. 528, 535 (1990).

267. *See* State v. Powell, 497 So. 2d 1188, 1192 (Fla. 1986) (relying on Florida statute F.S.A. § 732.9155 allowing removal of cornea for corneal tissue if no objection by the next-of-kin of the decedent is known by the medical examiner), *cert. denied*, 481 U.S. 1059 (1987); *see also* Georgia Lions Eye Bank, Inc. v. Lavant, 335 S.E.2d 127, 128 (Ga. 1985) (relying on Georgia statute OCGA § 31-23-6(b)(1) which authorizes the removal for transplant of corneal tissue of decedents if no objection is made by decedent or his wife or by his next-of-kin after death), *cert. denied*, 475 U.S. 1084 (1986); Tillman v. Detroit Receiving Hosp., 360 N.W.2d 275, 277 (Mich. Ct. App. 1984) (relying on Michigan's corneal removal statute M.C.L. § 333.10201, which states a removal of of the cornea may be done if "the county medical examiner does not have knowledge of an objection by the next-of-kin of the decedent to the removal of the cornea").

268. See cases cited, *supra* note 267.

269. State v. Powell, 497 So. 2d at 1189.

270. *See, e.g.*, Georgia Lions Eye Bank, Inc. v. Lavant, 335 S.E.2d at 128 (holding the state interest was great enough to allow removal of corneal tissue from a corpse without notice to surviving family members).

271. *See* Morgan v. Richmond, 336 So. 2d 342, 343 (La. Ct. App. 1976).

272. *See* Matthews, *supra* note 176, at 220. The transferability of a thing for valuable consideration is one indication of the thing's ability to be classified as property.

273. *Id.* at 212; see *supra* Part II.B.1 for a dicussion of the status of monsters.

ments and respect as do the remains of the recently deceased. Anonymity is a second element. An anatomical skeleton need not to be very old to be owned, but it certainly must be anonymous. Society is more reluctant to grant property rights in the remains of national leaders or other celebrities than it is to an anonymous anatomical preparation warehoused in a medical school. Anonymity alone is not, however, sufficient in all cases. Courts would probably deny any property right in an anonymous, but recently deceased body. A third element is the link between the deceased and the community. Society is more likely to grant property rights in remains of persons from a different community than from its own community.[274]

These elements highlight the importance of conceptual or psychological distance between the former person whose body is at stake and the governing community. The overall distance in regard to time, anonymity, and relationship to the community determines the susceptibility of a dead body to full property rights. As time passes, the shape of the cadaver is less and less reminiscent of the former person.[275] Anonymity also reflects the distance between the former person and the observer. Similarly, if the remains are those of a person formerly of a another era or community, society tends to view the body differently than it does with the more recently deceased. These elements combine to make the former person sufficiently "unreal," allowing society to consider the person's remains as property.

Aside from these exceptional cases, the rights granted to dead bodies are limited and specific to certain tasks and purposes. Today, no real need exists for a complete system of property rights in "biologically dead" dead bodies because they are nearly useless in a property sense. A tort approach may suffice because the decedent's relatives remain the parties most interested in the body. The existing system of rights appears to function satisfactorily. The situation is different, however, in the more complicated situation of biologically living, but legally dead, bodies.

2. *"Biologically Alive" Dead Bodies*

i. *General case.* For obvious historical reasons, common law does not distinguish between "biologically alive" and "biologically dead" dead bodies. The distinction would have been impossible without both the medical advances occuring in the last forty years as well as the adoption of the brain-death policy. As a result, traditional common law applies equally to all legally dead bodies, regardless of biological status. Neither the Uniform Anatomical Gift Act

---

274. This is illustrated by a museum's recent return of remains of Native Americans to their original community. Although the remains were probably considered property when in the museum, they were certainly not in their original community. Admittedly, concepts of property in native American communities are very different from those in Western civilizations.

275. This is not, however, true for a conserved or embalmed person and leads to the difficulties in accepting property rights in conserved bodies.

(UAGA) nor the National Organ Transplant Act (NOTA)[276] formally spell out the distinction.[277]

As previously stated, the UAGA expressly permits the transfer of corpses for purposes other than burial.[278] The transfer of organs for transplantation is certainly the most important of these purposes. In addition, the UAGA also allows the transfer of whole bodies for other purposes such as therapy, education, research, and advancement of medical or dental science.[279] The education and research aspects are especially relevant and troubling in the case of "biologically alive" dead bodies. Do the UAGA regulations mean that a deceased, his next of kin, or his guardian can consent to the use of the body for medical education purposes? In such a case, medical educators could not only perform classical dissections or anatomical demonstrations typically performed on biologically dead bodies on brain-dead bodies. Arguably, they could also make demonstrations of dynamic physiopathological events, such as reactions to various physical stresses, hormones, or drugs, or perform clinical or surgical procedures on the body without fear of injuring the patient. Along these same lines, could the deceased, his next of kin, or his guardian consent to any experimental research on a legally dead, but biologically alive body? Most mechanisms designed to protect human subjects, like the principle of unavailability of the person and institutional review boards, would be ineffective in this context—it is this author's position that the "biologically alive" dead body is no longer a human subject, but rather an object. Finally, could a decedent, his next of kin, or his guardian consent to a continuous gift of replenishable tissues valuable for transplantation, including blood, marrow, skin, bone, or liver tissue[280] thereby indefinitely delaying the burial? This consent would eventually lead to the development of gruesome human farms in the future, fostered by the demand for organs and other human tissues.[281] In such circumstances, the biologically living, but legally dead body would just become a means to warehouse[282] or produce valuable human materials.[283]

A decade after the adoption of the brain-death criterion, most believed biological life could not be sustained beyond a few days after brain death.[284] As a

---

276. National Organ Transplant Act, 42 U.S.C. §§ 273-274g (1988).

277. The National Organ Transplant Act 42 U.S.C. §§ 273-274 implicitly makes the distinction, encompassing "any human organ . . . for use in human transplantation." *See* 42 U.S.C. § 274e(a) (1988). Organs of use in human transplantation almost invariably come from biologically living human bodies, whether the person is legally dead or not.

278. *See* UNIF. ANATOMICAL GIFT ACT § 11, 8A U.L.A. 59 (1987).

279. *See id.* § 6(a)(1), 8A U.L.A. 53.

280. The liver is a partially regenerative organ, from which severed parts can grow again.

281. *See* SCOTT, *supra* note 3, at 164. As early as 1975, Gaylin coined the term "bioenporium" for such "farms."

282. This would allow organs to be safely conserved for days or months until the perfect immunological match is ready for surgery, thereby increasing the pool of potential recipients.

283. A parallel can be drawn to a brain-dead pregnant woman as a human incubator. In this case, the valuable human material is a baby instead of organs or other tissues.

284. *See* SCOTT, *supra* note 3, at 166. "A body utterly unable to sustain heartbeat and blood circulation spontaneously can be kept going by machine only for a limited time; soon the entire

result, the concept of human farms never became a serious consideration. Today, however, a body can be artificially maintained for months. Although the idea of human farms seems farfetched, this is because our concept of human dignity prohibits such realizations, not because of any inability due to medical science.

Although the UAGA adds a partial disposition stick to the bundle of rights persons have with respect to legally dead human bodies, it fails to distinguish between biologically alive and biologically dead bodies. In order to make the law consistent with the current societal values, future versions of the UAGA should be amended to account for this distinction.

ii. *Brain-dead pregnant women.* Although the title of this section appears absurd at first glance, this denomination nevertheless describes an existing entity, a product of the most recent advances in life-sustaining technology. Until a few years ago, few would have imagined that the physiological functions of a brain-dead, pregnant woman could be sustained for weeks or months in order to allow her fetus to develop to term.

The obvious query presented by this scenario is whether to keep a brain-dead woman alive in order to deliver her child. The query underlying this issue is whether pregnant women have the same rights as other persons regarding self-determination, bodily autonomy, and anatomical gifts. Common sense leads to the conclusion that medical, judicial, and legislative institutions would favor the continuation of treatment in hope of preserving the life of the fetus. In practice, few concerns have arisen when evidence shows that the woman desired the life-sustaining treatment. Outcries occur, however, when the decedent's family and health care institutions disagree about the maintenance of treatment.[285] Institutions often disagree with the family when the family is opposed to maintaining life-sustaining treatment.[286]

In several states, legislatures have reacted to these difficult situations by enacting statutory clauses which void the living wills of pregnant women.[287] Strictly speaking, these statutes address only situations in which the woman does not desire life-sustaining treatment, rather than situations dealing with burial and related issues.[288] The conclusion that these statutes void the woman's express wishes concerning the way in which her body is handled after her death is consistent with the goal of these statutes. Any other interpretation renders these statutes inoperative. In addition to voiding the pregnant woman's right to direct

---

nervous and physical system will begin to disintegrate, and even the machinery will not be able to maintain basic functions." *Id.*

285. *See* University Health Servs. v. Piazzi, No. 86RCCV-465, (Ga. Super. Ct., July 22, 1986) (indicating husband of a brain dead but pregnant woman wanted the hospital to disconnect all life-support systems, but the unborn child's father, who was not the woman's husband, wanted them to continue to save the fetus and hospital filed petition for declaratory judgment seeking clarification of its legal rights); Tracy Thompson, *Medical Technology Ups Stakes in an Already Difficult Situation*, NAT'L L.J. Sept. 1, 1986, at 6; Warren A. Kaplan, Note, *Fetal Research Statutes, Procreative Rights, and the 'New Biology': Living in the Interstices of the Law*, 21 SUFFOLK U.L. REV. 723, n.2 (1987).

286. *Id.*

287. *See* Molly C. Dyke, *A Matter of Life and Death: Pregnancy Clauses in Living Will Statutes*, 70 B.U. L. REV. 867 (1990); McAvoy-Smitzer, *supra* note 59, at 1280.

288. McAvoy-Smitzer, *supra* note 59, at 1281.

the post-mortem handling of her body, these statutes are incompatible with the UAGA.[289] Most organ donations would render any further life-sustaining techniques useless. Therefore, one must conclude these pregnancy clauses conflict with the rights afforded by the UAGA. According to a recent Georgia case, the constitutional right of privacy, upon which a woman's right to an abortion is based, does not survive her death.[290] The compelling state interest set forth in *Roe v. Wade*[291] mysteriously reappears by systematically considering the brain-dead pregnant woman as a human incubator, notwithstanding her personal wishes. Statutes, pregnancy clauses in living wills, and dicta found in *University Health Services, Inc. v. Piazzi*, for example, serve as clear negations of a pregnant woman's right to bodily autonomy, to direct her own burial, and to make anatomical gifts.

As previously noted, this situation results from the current brain-death policy. According to this policy, the brain-dead pregnant woman is no longer a legal person—a subject of rights—having the minimal hard nucleus of constitutional rights, but rather an object of rights. This author proposes to include the termination of the pregnancy[292] in the definition of death, as a *de lege ferenda*[293] amendment to the brain-death policy. This would allow a brain-dead woman to retain at a minimum her status as a legal person and her constitutional right of privacy. In the states that have a statute addressing pregnancy clauses in living wills, this solution still would not permit the woman to control either her or her fetus's destiny through a living will because these clauses void the constitutional rights of persons.[294] Fortunately, signs of a backlash against these pregnancy clauses have arisen, most notably in Connecticut.[295] Because these changes in the definition of death are improbable, one must accept a brain-dead pregnant woman is legally dead, and thus, not a legal person or the subject of rights. Furthermore, the living fetus cannot be defined as a person. Accordingly, one must conclude brain-dead pregnant women are the objects of rights.

---

289. *Id.* at 1300 n.100.

290. *See* James M. Jordan, III, *Incubating for the State: The Precarious Autonomy of Persistently Vegetative and Brain-Dead Pregnant Women*, 22 GA. L. REV. 1103, 1111 (1988) (citing University Health Services, Inc. v. Piazzi, No. CV86-RCCV-464 (Ga. Super. Ct. July 22, 1986), in which the court opined "the privacy rights of the mother are not a factor in this case because the mother is dead as defined by O.C.G.A. § 31-10-16 [Georgia statute on determination of death]").

291. Roe v. Wade, 410 U.S. 113, 162 (1973) (holding the state maintains a compelling interest in protecting the potentiality of human life after the second trimester of fetal development).

292. The term "termination of pregnancy" includes the birth or death of the fetus.

293. *De lege ferenda* means a standard or norm meant to be binding in the future as opposed to those *de lege lata*, or binding now.

294. *See* Roe v. Wade, 410 U.S. at 154; *In re* Quinlan, 335 A.2d 647 (1976). These are the landmark cases on abortion and the withdrawal of life-sustaining treatment. Although Karen Quinlan was totally incompetent, patients in both cases were legal persons entitled to substituted judgment. This is not the case for a brain-dead person.

295. *See generally* Frank Spencer-Molloy, *Right-To-Die Debate is a Storm Far From Over*, HARTFORD COURANT, Mar. 12, 1993, at D1 (discussing unanimous support by a committee of the Connecticut General Assembly for a bill to remove langauge from the state's right-to-die law that currently invalidates a pregnant woman's wishes not to be kept on life support).

The recurring problem in states adopting pregnancy clause statutes is that neither a woman nor her relatives have any possessory right pertaining to the woman's pregnant dead body. The limited rights granted to the person or her family members by traditional common law and the UAGA vanish completely as soon as the woman is pregnant. Only the state, through its regulations and decisions, appears to enjoy rights over the body of a brain-dead pregnant woman.

This legal status is reminiscent of a strange Roman law notion. The concept of excluding certain objects from private property rights was practiced in Rome under the principle of *res extra commercium*. These objects were excluded from private property rights because their purpose went beyond private interests.[296]

There were, historically, two kinds of *res extra commercium*: sacred things—*res divini iuris*—and public things—*res publicae humani iuris*.[297] Sacred things were essentially temples, cult objects, objects deposited in graves,[298] cemeteries, and city walls or other objects especially protected by the gods after a religious dedication.[299] Public things were a more heterogeneous category and included the administrative patrimony and the public domain, such as roads, squares, and bridges. For example, public things included things over which no one could control completely, such as water, air, or the sea.[300]

Obviously, human beings and their parts were not *res extra commercium* in Rome, where slavery was a well established institution.[301] The reference to the Roman *res divini iuris* as a sub-category of *res extra commercium* reflects the symbolic purpose of the notion—the remains of the sacred or taboo objects in a legal system. After the abolition of slavery and the proclamation of the Universal Declaration of Human Rights,[302] the human person, her body, and by extension, her body parts, have been regarded as inviolable and inalienable in the Western

---

296. According to certain authors, there was a distinction between the *res extra commercium*, which were inalienable rights and protected by property law, and the *res extra patrimonium*, which property law excluded. This subtle distinction considers the possibility of a property right lacking alienability. R. SAVATIER, 28 COURS DE DROIT CIVIL 11 (1944). Some consider these concepts as equivalent. *See* BRUNO SCHMIDLIN, 1 DROIT ROMAIN, COLLECTION JURIDIQUE ROMANDE 98 (1984). Still others believe the notion of *res extra patrimonium* historically replaced the idea of *res extra commercium*. *See* V. Accarias, 1 Précis de droit romain, Paris Cotillon 453 (1882), *quoted by* Jean-Christophe Galloux, *Réflexions sur la Catégorie des Choses Hors du Commerce; L'exemple des Éléments et des Produits du Corps Humain en Droit Française*, 30 LES CAHIERS DE DROIT, 1011, 1015 (1989). This Article adopts the position that *res extra commercium* is excluded from any "stick" in the property rights bundle.

297. Translation by Author.

298. LABBEE, *supra* note 27, at 177 (indicating objects deposited in graves still retain a special status in civil law jurisdictions).

299. *Id.*

300. *See* SCHMIDLIN, *supra* note 296, at 98.

301. Slaves are even cited in an enumeration of material things susceptible of property in a legal treatise: "*Corporales haec sunt quae tangi possunt velut fundus homo vestis aurum argentum et denique aliae res innumerabile.*" Gaius, Institutes, II, 12.

302. Article 3 of the Universal Declaration of Human Rights states: "Everyone has the right to life, liberty and security of the person." *Human Body*, *supra* note 204, at 1002.

world. In other words, the body is a taboo or sacred thing. Thus, it is not surprising to find the human person and her body in the category of *res extra commercium* in legal systems in which the notion still survives. Indeed, the French civil code and doctrine adopted and modified the notion.[303]

The modern understanding of the *res extra commercium* concept in the French doctrine and case law has varied widely due to the nebulous definition. Most modern authors adopted a strict definition of the concept of *res extra commercium*. This definition includes strictly inalienable objects—a consideration which is secondary to the nature of the things themselves.[304] Inalienability relates to the most important stick in the bundle of property rights—the right of disposition, and the right of destruction.

During the same time the definition of *res extra commercium* varied, an *incantatory maxim*[305] appeared without much explanation in French case law and legal doctrine. According to this maxim, the person, and by extension, the human body and its parts, were *res extra commercium*. This statement is correct in regard to the person because it emphasizes the principle of unavailability of the person and the maxim that persons are subjects, not objects of rights.[306] The current reality surrounding the human body and its parts is a dynamic one because body parts are transferred daily for various purposes. Hence, the human body and its parts are definitely objects in commerce[307]—blood, gametes, organs, cells, and whole dead bodies are efficiently alienated from the person through gifts or sales. Embryos transferred in the course of new reproductive technologies are indeed *res in commercium* as well.

Is the notion of *res extra commercium* useless as applied to human materials? Some scholars advocate this position by construing the term strictly.[308] Others propose to revise its definition, distorting the original meaning. In the author's opinion, the definition should not, however, be changed in order to retain its legal coherence. We must accept that most human materials which are objects of rights are not strictly inalienable, and thus, are not *res extra commercium*.

---

303. Article 1128 of the Universal Declaration of Human Rights states: "Only the things in trade can be the objects of conventions." Although rarely enunciated, the conventions in question are the alienation (dare) conventions because reference is made to the inalienability of the "*choses hors commerce*," and not the "*facere*" conventions. This is illustrated by the medical contract.

304. Galloux, *supra* note 296, at 1017; *see* Hermitte, *supra* note 112, at 125.

305. *See* Galloux, *supra* note 296, at 1014.

306. *See id.* at 1016. "[I]t is useless to say that the human person is *hors commerce* because this qualification applies only to things, which the human person is not." (Translation by Author).

307. The modern French doctrine reflects this position. *See* Xavier Dijon, op. cit, at 652 (citations omitted). French institutions still keep proclaiming, however, that the human body and its parts are *hors commerce*. *See, e.g.*, the *Comité Consultatif National d'Ethique, in* ETHIQUE ET CONNAISSANCE 42-47. Nevertheless, this position probably has a more "incantatory" meaning than a legal one.

308. Galloux, *supra* note 296, at 1011. "[T]his concept [of extracommerciality] cannot be legally coherent and useful unless it is absolute. Yet, in practice, this condition is never satisfied. In order to avoid the pure and simple disparition of this legal category, . . . (follows a proposal to modify the notion)." *Id.* (Translation by Author).

According to her current legal status, the brain-dead pregnant woman could be considered as a *res extra commercium* in the strict sense of the term. This characterization reflects the taboo inspired by the potential human life within its dead mother. As previously mentioned, the brain-dead pregnant woman is the only object of rights capable of producing a subject of rights—the child. This prospective child is especially vulnerable because it is not protected through the rights afforded to its mother. For this reason, institutions tend to grant the brain-dead pregnant woman a special legal status designed to protect the life of the fetus. The state decides how to handle a brain-dead pregnant woman through a strict inalienability and intangibility clause.[309] Although the state's interest is legitimate, this policy clearly interferes with several rights—the right to bodily autonomy, the quasi-property right on one's own body, and the right to make anatomical gifts, which are afforded to all nonpregnant persons. The very same abortion issues which threaten the bodily autonomy of women also endanger their right to have their body handled in a decent manner after their death. Brain-dead pregnant women are in danger of becoming human incubators.

The set of rights granted by common and statutory law to biologically dead bodies pose problems when applied to "biologically alive" dead bodies. On one hand, these rights appear too broad with respect to the educational and research purposes of "biologically alive" dead bodies. Potentially, these rights permit private parties to consent to the use of the human body as an incubator. On the other hand, the rights of private parties seem insufficient to prevent the state from using the human female body as an incubator. Both inadequacies call for a reformulation of the law applicable to brain-dead pregnant women.

3. *Fetuses*

Fetuses could be considered body parts of their mothers because they were never afforded the status of legal persons. Both versions of UAGA, however, equate *ex utero* fetuses with decedents.[310] The definition permits the donations of a whole fetus for the listed purposes. Obviously, a fetus could not donate itself, or have its "adult son or daughter" donate the body[311]—this is the task reserved for its "parents" according to the priorities in the statute.[312] At the time of donation, even a nonviable fetus may be biologically alive, especially in the case of transplantable fetal tissue donations. Some commentators find this concept problematic because "the UAGA does not apply to tissue donations from live

---

309. Admittedly, little difference exists between a person possessing only the hard nucleus of the constitutional rights and an intangible or inalienable object. The advantage of this solution, however, is it avoids granting personalty to an entity, which according to current law, is not a person.

310. Decedent is defined as a "deceased individual," and includes "a stillborn infant or fetus." UNIF. ANATOMICAL GIFT ACT § 1(b), 8A U.L.A. 94 (1968); *see id.* § 1(2), 8A U.L.A. 30 (1987).

311. UNIF. ANATOMICAL GIFT ACT § 2(b)(1)-(2), 8A U.L.A. 94 (1968); *see id.* § 2(a)-(b), 8A U.L.A. 30 (1987).

312. *Id.* § 3(a)(3), 8A U.L.A. 30 (1987).

persons,"[313] and as a result, the UAGA applies to biologically living fetuses only by analogy.[314] The notion of decedent in the UAGA deals less with biological life, and only focuses on legal personhood. The fetus is similar to a dead person in that neither one is a legal person.[315] The fetus has been likened to a decedent by the UAGA for this reason only, whether it is biologically alive or dead.[316]

Neither NOTA nor the 1987 version of UAGA clearly prohibit sales of whole fetuses.[317] Most state laws compare fetuses to dead bodies and require fetuses to be disposed of in a similar manner. Common law prohibits the sale of whole fetuses pursuant to the principle prohibiting the sale of person's bodies.

B. *Body Parts*

This section addresses human objects other than whole cadavers. The rationale underlying this distinction is that the respect garnered by body parts is independent of that of whole dead bodies. Dead bodies remind one of the past person and one's own death. Body parts directly command one's respect because they represent a vital, life-saving resource, and indirectly because human dignity would otherwise be violated, depending on the circumstances surrounding the severance of the body parts from the body.

Body parts yield more socially productive uses than whole cavaders. They can be transplanted and used in therapies.[318] Body parts also serve as a foundation for research that leads to the development of new treatments. They remain important in diagnostic and forensic training and can be used in medical education for student and staff training. Finally, they can have cosmetic utility. Moreover, if we accept in our definition embryos resulting from in vitro fertilization, then body parts can be used for the purpose of procreation. This enumeration is certainly not exhaustive.

Body parts are increasingly susceptible to utilization by different people. By the same token, the person most interested in a body part can also vary. For example, an interested person may be the donor, recipient, hospital, researcher, or representative of the medical community. As a result, issues surrounding the property rights in body parts unavoidably arise. Depending on the body part at issue, attention is focused on different aspects of property rights.

The focus on valuable, transplantable organs is directed toward the modalities of transfer. The transfer relates to the disposition stick in the bundle of

---

313. Gregory Gelfand & Toby R. Levin, *Fetal Tissue Research: Legal Regulation of Human Fetal Tissue Transplantation*, 50 WASH. & LEE L. REV. 647, 671 (1993).

314. *Id.*

315. *Id.* at 672.

316. *Id.* at 671; *see also* UNIF. ANATOMICAL GIFT ACT § 1(2), 8A U.L.A. 30 (1987) (stating "decedent" includes fetus).

317. *Id.*

318. Opotherapy—the harvesting of cadaver pituitaries to retrieve growth hormone—is a classic example. *See* Tanya Wells, *The Implications of a Property Right in One's Body*, 30 JURIMETRICS J. 371, 378 (1990). The practice of opotherapy is waning today due to advances in genetic engineering, which provide more efficient production and infection free hormones.

rights. The modalities include total inalienability, gift-alienability, and market-alienability. The question is treated in inclusive statutes like the National Organ Transplant Act[319] and the Uniform Anatomical Gift Act.[320]

When ownership of human cells is an issue, the remedies available to the entitled party[321] include legal actions in tort for trespass and conversion.[322] The famous *Moore v. Regents of the University of California* tackled the question of available remedies.[323] When frozen embryos are at issue, the sticks of disposition, including use and destruction, are addressed. The Tennessee Supreme Court examined this problem in *Davis v. Davis*.[324]

When the body part's structure is sufficiently understood to be replicated or usefully modified by human ingenuity, the focus shifts from personal property to intellectual property issues. Today, numerous patents are issued on cell lines, genes, and other molecules of human origin. The following discussion considers different aspects through a tentative categorization of the various human body parts.

1. *Body Parts for Use in Human Transplantation or Therapy*

i. *General case.* This section examines transplantable of body parts—the only truly viable replacement for failing human tissues and organs. Simply stated, the worth of body parts is inestimable. Their monetary value provides a strong incentive for healthy people to sell their organs. This incentive poses a potential threat to human dignity. In addressing this concern, the law appropriately regulates the modalities of transferring body parts through the concepts of inalienability, gift-alienability, or market-alienability.

Historically, common law permitted inter vivos donations of organs and body parts with some of the above-described limitations.[325] The UAGA permits the post-mortem[326] donation of any body part,[327] as long as the transfer is for

---

319. National Organ Transplant Act, 42 U.S.C. §§ 273, 274, 274a-e (1991).

320. UNIF. ANATOMICAL GIFT ACT § 2, 8A U.L.A. 30 (1987).

321. Admittedly, the term "entitlement" may be inappropriate if no property right or title is recognized in body parts.

322. In the case of whole dead bodies, personal torts remedies remain an alternative for such body parts. *See supra* note 253.

323. Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied* 499 U.S. 936 (1991).

324. Davis v. Davis, 842 S.W.2d 588 (Tenn. 1992).

325. These limitations reflect the inefficacy of medical consent when the donation may cause serious harm to the donor. According to Bernard Dickens, the "[t]issue removable without prejudice to the donor's health includes one kidney, the spleen, three to six feet of small bowel, small pieces of skin, part of the thyroid, one parathyroid, one adrenal gland, and one gonad." Dickens, *supra* note 92, at 154. For purposes of actualization, this author would include parts of the liver, arteries, veins, and bone.

326. In this context, the term "post-mortem" gift or sale means a gift or a sale executed after death.

327. The term "anatomical gift" is construed as a donation of all or part of a human body to take effect upon or after death; the term "part" should be understood as an organ, tissue, eye, bone,

transplantation or therapy purposes, medical or dental education, research, or advancement of medical or dental science.[328] Thus, strict inalienability is no longer a reality for body parts.[329] The purposes listed in the UAGA may be considered limiting for post-mortem gifts, representing the only transfers deemed morally permissible with respect to posthumous human dignity. It is unclear, however, whether the same limitations apply to inter vivos gifts—for example, the inter vivos gift and the sale of hair for cosmetic purposes has long been permitted.

The National Organ Transplant Act of 1984 (NOTA)[330] prohibits any organ transfer for valuable consideration if the organ is "for use in human transplantation."[331] In another provision, the term "human organ" is defined as "the human (including fetal)[332] kidney, liver, heart, lung, pancreas, bone marrow, cornea, eye, bone and skin, and any other human organ (or any subpart thereof, including that derived from a fetus) specified by the Secretary of Health and Human Services by regulation."[333] The rule applies to both inter vivos and post-mortem organ transfers.[334] NOTA superseded earlier common-law decisions upholding the sales of inter vivos organs.[335] The statute symbolized society's response to a kidney brokering company launched by a Virginia physician in 1983.[336] Post-mortem sales of body parts were generally considered illegal at common law, although the law was not absolutely clear.[337] The 1987 version of the UAGA prohibits post-mortem sales of any body part.[338] In summary, the 1987 UAGA prohibits

---

artery, blood, fluid, or other portion of a human body. *See, e.g.*, UNIF. ANATOMICAL GIFT ACT § 1(1), (7), 8A U.L.A. 29 (1987).

328. *Id.* § 6(a), 8A U.L.A. 53.

329. The only human material considered strictly inalienable—or *res extra commercium*—is the brain-dead pregnant woman. *See supra* Part IV.A.2.ii.

330. National Organ Transplant Act, 42 U.S.C. §§ 273, 274a-e (1988).

331. *Id.* § 274e(a). NOTA prohibits these transfers only if they affect interstate commerce. *Id.* The language in NOTA is not absolutely clear on whether the term "for use in human transplantation" designates a type of tissue, transplantable organs, for example, or a purpose. *Id.*

332. *Id.* § 274e(c)(1). This amendment was added in 1988, when the battle over fetal experimentation raged.

333. *Id.* § 274e(c)(1).

334. Arguably, the threat to human dignity is moot when the person is dead; it is this author's view that sales should be allowed in such cases. There is also the consideration of the dignity of the cadaver and its living relatives. There is, however, no significant material difference between an organ harvested from a cadaver and those removed from a living donor or seller. Therefore, in practice it would be difficult to control the application of a no-sale rule limited to organs in provenance from living sellers.

335. "The sale of a non-vital organ by a living source is not prohibited by any state." Note, *The Sale of Human Body Parts*, 72 MICH. L. REV. 1182, 1237 (1974) (citing Jesse Dulceminu, Jr., *Supplying Organs for Implantation*, 68 MICH. L. REV. 811, 850 (1970)).

336. *See* Brian G. Hannemann, *Body Parts and Property Rights: A New Commodity for the 1990s*, 22 SW. U. L. REV. 399, 410 (1993).

337. *See* Dougherty v. Mercantile-Safe Deposit & Trust Co., 387 A.2d 244 (Md. 1978) (holding there are no "commercial" rights in a dead body). These cases dealt, however, with whole bodies and not parts. Moreover, courts seem to make a distinction between the whole body and its parts: "We know of no Arkansas cases which extend this quasi-property right [of the whole body] to all of the body's organs. . . ." Fuller v. Marx, 724 F.2d 717, 719 (8th Cir. 1984).

338. UNIF. ANATOMICAL GIFT ACT § 10(a), 8A U.L.A. 29, 58 (1987).

post-mortem sales of any body part if the transfer is for "transplantation or therapy" purposes, and proscibes inter vivos sales of human or fetal organs—or parts thereof as defined by the NOTA—if the transfer is for transplantation purposes.[339]

Although the UAGA and NOTA overlap to a certain extent and the definitions of their subject matter and purposes of transfer are not completely concordant, the underlying policy of each can be distinguished. The statutes tend to suppress the market-alienability of the most valuable body parts. Transplantable organs possess the greatest possible utility value because they dramatically improve the quality of the recipient's life. Of course, the utility of cell lines and other body parts in developing new treatments must not be overlooked. Although they can be of paramount importance in this process, these body parts are different from "ready-to-use" organs because they generally necessitate complex human interventions before their use and value is realized.[340] Moreover, in spite of reports that the global demand for organs would be nearly satisfied if a better organ harvesting system was established, organs would remain scarce commodities due to immunocompatibility requirements. Utility and scarcity combine to increase the organ's value; this in turn serves as an incentive for people to sell their healthy organs.

Reflecting prevailing societal values, Congress prohibited organ sales because many poor people would be tempted to sell their organs, while only wealthy individuals could afford to buy them.[341] Congress implicitly adopted the position of Calabresi and Melamed,[342] according to which no amount of compensation to the seller would be adequate enough to offset the external costs associated with organ sales.[343]

Although commentators have discussed and criticized the no-sale policy,[344] a discussion of all proposed alternatives is beyond the scope of this article. The

---

339. NOTA's reference "for use in human transplantation" probably connotes a transplantation purpose. The same phrase could be read, however, as drawing a category, which includes all organs usable in human transplantation. *See* 42 U.S.C. § 274(e) (1988). The wording of the 1987 version of the Act is clearer: "A person may not . . . purchase or sell a part for transplantation or therapy . . . ." UNIF. ANATOMICAL GIFT ACT § 10, 8 U.L.A. 29, 56 (1987). This indicates the phrase intends a transplantation purpose.

340. As an illustration, see the statement of the California Supreme Court in the *Moore* case: "the patented cell line is both factually and legally distinct from the cells from Moore's body." Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991).

341. This second concern is rather ironic in the context of the health system currently in place in the United States. The other concerns of Congress included the possibility that sales would undermine the voluntary organ donation system and the general distaste underlying the sale of human body parts. *See* U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, NEW DEVELOPMENTS IN BIOTECHNOLOGY: OWNERSHIP OF HUMAN TISSUES AND CELLS 76 (1987).

342. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

343. *Id.* at 1112.

344. *See, e.g.*, SCOTT, *supra* note 3; RICHARD TITMUSS, THE GIFT RELATIONSHIP—FROM HUMAN BLOOD TO SOCIAL POLICY (1971); Michelle Bourianoff Bray, *Personalizing Personality:*

market-inalienability rule for transplantable organs is one legal device designed to resolve Congress' concerns about human dignity through organ transplantation.

An important consideration is that a no-sale policy is sensible only as far as the body parts at issue have significant value. For example, medical advances in animal transplants culminated in a successful pig-to-man xenograft.[345] The value of human organs would decline with a concomitant decrease in an individual's incentive to sell their organs. Under such conditions, a market-inalienability policy for organs would be both paternalistic and useless because no significant market for such organs exists. The policy would protect an aspect of human dignity no longer threatened because few would have sufficient incentive to alienate their human dignity. The purposes of transfer mentioned in both organ statutes[346] follows the same line of reasoning—only these purposes generate significant value in a given body part to warrant a market-inalienability policy.

The distinction between highly valuable transplantable body parts and less valuable nontransplantable body parts may appear utilitarian and legally irrelevant. Admittedly, the notion that the transfer of transplantable or therapeutic body parts poses a threat to human dignity is somewhat unfounded. The potential injury to human dignity depends on various other factors: parity of the organ, replenishability of the tissue, or the pain endured during the sampling.[347] Except for blood,[348] the criterion of transplantability matches these concerns and appears to be an acceptable parallel to draw. No comparable bidder for nontransplantable body parts presently exists. As a result, the sale of these body parts do not invoke the same risks of donor or seller exploitation.

Most authors discuss organ issues in conjunction with all other types of body parts.[349] Existing statutes implicitly make this distinction by prohibiting

---

Toward a Property Right in Human Bodies, 69 TEX. L. REV. 209, 210-11 (1990); Hannemann, *supra* note 336, at 401; Henry Hansmann, *The Economics and Ethics of Markets for Human Organs*, 14 J. HEALTH, POL., POL'Y & L. 5757-58 (1989); Hardiman, *supra* note 199, at 213; Note, *The Sale of Human Body Parts*, 72 MICH. L. REV. 1182, 1182 (1974).

345. A xenograft is the transfer of any unattached tissue or organ from one species to another species. STEDMAN'S MEDICAL DICTIONARY 646 (24th ed. 1982); *see, e.g.*, Jeffrey L. Platt et al., *Immunopathology of Hyperacute Xenograft Rejection in a Swine-to-Primate Model*, 52 TRANSPLANTATION 214 (1991); Rafael Oriol et al., *Carbohydrate Antigens of Pig Tissues Reacting with Human Natural Antibodies as Potential Targets for Hyperacute Vascular Rejection in Pig-to-Man Organ Xenotransplantation*, 56 TRANSPLANTATION 1433 (1993).

346. 42 U.S.C. § 274e(a) (1988); UNIF. ANATOMICAL GIFT ACT § 10, 8A U.L.A. 29, 56 (1987).

347. Extraction of bone marrow, for example, causes the donor to endure pain. The sale of bone marrow is prohibited by National Organ Transplant Act, 42 U.S.C. § 274e(a) (1988). When discussing the human dignity of donors, bone marrow is otherwise very similar to blood—it is the physiological precursor of blood cells, as well as a replenishable tissue like blood. The only difference is that the donor is subject to a surgical procedure resulting in noticeable post-operative pain in the hip bone.

348. Although transplantable, blood is not included in NOTA regulations. *See infra* note 358.

349. Hanna Horsley is one of few exceptions; she distinguishes between "type-1" and "type-2" human materials—tissues with and without intrinsic value respectively. Hanna Horsley,

only the sales of body parts for transplantation or therapy. This rule is consistent with a policy directed at preserving human dignity, when such a consideration is appropriate.

Presently, there are no reported cases in which an interference with a transplantable body part gave rise to an action in conversion or trespass. Courts appear reluctant to grant any enforceable right of ownership in human body parts.[350] Although the *Moore* opinion dealt with ownership of human cells, the language used is rather expansive and appears to include organs: "the laws governing . . . transplantable organs . . . deal with human biological materials as objects *sui generis* rather than abandoning them to the general law of personal property."[351] In the criminal context, it is impossible to conclude that a thief who steals a transplantable organ will be convicted of larceny. According to the current trend, courts would probably consider this situation a tort against the individual, rather than a tort against property. In the hypothetical case of a transplantable organ lost by a third party—that is, an organ procurement organization—either the donor or the intended recipient could claim damages for intentional infliction of emotional distress. This solution may suffice as long as the interested persons in transplantable organs are primarily the donor and the recipient. The interests of third parties, such as hospitals or organ procurement organizations, may warrant further recognition if organ preservation techniques continue to improve thereby lengthening the time interval between harvesting and transplantation. In this situation, legal remedies other than personal torts will be needed and third parties will not be able to claim damages for the intentional infliction of emotional distress. This problem already exists for other body parts.[352]

The other relevant "sticks" for transplantable organs relate to possession and destruction. The right to possess an organ for burial exists to the extent of the right to possess a dead body. In an Arkansas case, however, a court refused to extend the common-law quasi-property right of relatives in the deceased body organs.[353] Under a bailment theory, surgeons and organ procurement agencies certainly have a right to possess transplantable organs prior to transplantation, but the enforcement of such a possession right is unclear. The destruction "stick" includes the right to bury a body without interference or the right to destroy surgically removed body parts.[354]

ii. *Fetal tissues for use in human transplantation or therapy.* The UAGA and NOTA include transplantable fetal tissue regulations. As such, they can be

---

Reconsidering Inalienability for Commercially Valuable Biological Materials, 29 HARV. J. ON LEGIS. 223 (1992).

350. *See* Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991).

351. *Id.* at 489.

352. *See infra* Part IV.B.2.

353. A distinct Arkansas statute provides, however, the right to possess organs. *See* Fuller v. Marx, 724 F.2d 717, 719 (8th Cir. 1984).

354. *Id.*

donated,[355] but not sold.[356] Aside from these regulations, fetal transplantation has generated fiery political debate in recent years because of the underlying abortion issue. Although a moratorium during the last several years stymied fetal transplantation research, the recent administration repealed the prohibitions.[357]

iii. *Blood.* Blood is the only transplantable body part excluded from NOTA sales ban.[358] The reasons behind this exception are largely historical, blood having long been transferred for money in the United States.[359] Arguably, however, the sale of blood does not offend the previously described human dignity policy because blood exhibits characteristics generally lacking in other transplantable or therapeutical body parts. First, in sharp contrast to other transplantable body parts, blood is completely replenishable within a matter of days or weeks. Second, its compatibility is easy to assess which lessens the demand pressure. Finally, the procedure for extracting the blood from the donor is relatively painless. Arguably, these characteristics depress the value of blood, provide individuals with little incentive to sell it, and do not give rise to any dignity concerns because of pecuniary gain.[360]

Although blood is transferred for valuable consideration, the transfer is characterized not as a sale of a commodity, but rather as a service rendered to the recipient.[361] This legal maneuver is designed primarily to avoid the strict product liability rules applicable to the sales of goods. Accordingly, a blood provider, including a donor, hospital, or blood bank, can be held liable only for negligence in handling the blood.[362] This solution appears artificial considering the true

---

355. UNIF. ANATOMICAL GIFT ACT §§ 1(2), 3(a)(3), 8A U.L.A. 30, 40 (1987); UNIF. ANATOMICAL GIFT ACT §§ 1(b), 2(b)(3), 8A U.L.A. 94, 99 (1967).

356. National Organ Transplant Act, 42 U.S.C. §§ 274e(a),(c)(1); UNIF. ANATOMICAL GIFT ACT §§ 1(2), 10(a), 8A U.L.A. 30, 58 (1987).

357. *See, e.g.*, Gelfand & Levin, *supra* note 313, at 647; Beverly Ray Burlingame, Note, *Commercialization in Fetal-Tissue Transplantation: Steering Medical Progress to Ethical Cures*, 68 TEX. L. REV. 213 (1989).

358. *Contra* UNIF. ANATOMICAL GIFT ACT § 1(7), 8A U.L.A. 30 (1987) (noting blood is regulated by the UAGA). Post-mortem sales of blood are prohibited in states with the 1987 version of UAGA. *Id.* § 10, 8A U.L.A. 30, 58. Although uncommon, transfusion of blood removed from cadavers is medically possible.

359. For a classical and thorough analysis of no-sale and sale policies for blood, see TITMUSS, *supra* note 343.

360. Unfortunately, experience reveals the market value of blood is sufficiently high to induce those less fortunate to sell their blood for a few dollars. Donor patterns in the United States clearly demonstrate that most renumerated donors are impoverished. *See id.* at 102, 110.

361. *See, e.g.*, Sloneker v. St. Joseph's Hosp., 233 F. Supp. 105, 106 (D. Colo. 1964); Perlmutter v. Beth David Hosp., 123 N.E.2d 792, 795 (N.Y. 1954); Lovett v. Emory Univ., Inc., 156 S.E.2d 923, 925 (Ga. Ct. App. 1967).

362. *See* Carter v. Inter-Faith Hosp., 304 N.Y.S.2d 97, 100-01 (1969). In *Carter*, a New York court distinguished between hospitals and blood banks, holding the latter liable for breach of implied warranties based on the performance of sales transactions. *Id.* Other cases reach the same conclusion. *See, e.g.*, Community Blood Bank, Inc. v. Russel, 196 So. 2d 115, 117 (Fla. 1967); Reilly v. King County Cent. Blood Bank, Inc., 492 P.2d 246, 248 (Wash. 1971); Hoder v. Saye, 196 So. 2d 205, 208 (Fla. Dist. Ct. App. 1967). This distinction, however, was overruled for policy reasons. *See, e.g.*, Howell v. Spokane & Inland Empire Blood Bank, 785 P.2d 815, 821 (Wash.

nature of blood transactions. If public policy considerations grant blood providers immunity from strict products liability, then a specific statutory exemption for blood products, rather than a modification of the transaction, is the best solution.[363] Another acceptable approach treats blood as an unavoidably unsafe product; therefore, no test can safely eliminate all the dangers.[364]

In summary, the primary purpose behind the efforts to characterize the sale of blood as a service is to isolate the purveyor from strict products liability. However, blood sales do continue in practice. Thus, the disposition "stick" is complete for this body part. Moreover, courts construe blood transfers as sales for the purpose of imposing sales tax.[365]

Tax issues arise when bodily fluids are transferred in economically significant amounts. Currently, this applies only to blood bearing some rare characteristic. For product liability issues to arise, the body part must be a sellable product which can be applied to the human body. Presently, only gametes and blood meet this criteria because no other body part exhibiting these features is transferred in any significant amount.

2. *Other Body Parts*

i. *General Case.* This section discusses the legal status of human body parts which are not for use in transplantation or therapy. It covers unique aspects belonging to specific body parts, including ova and sperm, parts of fetuses, preembryos, and human body parts of molecular size.

According to the sales prohibition policy of NOTA and UAGA, the term "valuable consideration" does not include reasonable costs associated with removal and processing of organs.[366] If the value of the body part is significantly enhanced due to human contribution, the inherent value of the raw body part is probably insufficient to encourage behaviors which threaten human dignity. Moreover, if human body parts utilized in transplantation or therapy include

---

1990). For a discussion and survey of transfusion-related case law, see Jay M. Zitter, Annotation, *Liability of Blood Supplier or Donor for Injury or Death Resulting from Blood Transfusion*, 24 A.L.R. 4th 508, 516-19 (1983 & Supp. 1988); Geoffrey R.W. Smith, *Protecting Against Donor, Processor, and Malpractice Liability for Organ and Tissue Uses*, 46 FOOD DRUG COSM. L.J. 141-54 (1991).

363. Most states have now done so, although the qualification of "service" seems to survive. These "blood shield statutes," however, often exclude strict liability only for blood-borne hepatitis, which was the main concern at the time they were enacted. This made their application in AIDS-related cases problematic.

364. *See* Fogo v. Cutter Lab., Inc., 137 Cal. Rptr. 417, 422 (Cal. Ct. App. 1977). Although this case was decided prior to hepatitis screening and the HIV epidemic, the reasoning is still valid because no one can safely predict the emergence of a new blood-borne virus.

365. *See* Parkridge Hosp., Inc. v. Woods, 561 S.W.2d 754 (Tenn. 1978); *see also* United States v. Garber, 607 F.2d 92 (5th Cir. 1979) (discussing a blood donor's attempts to avoid paying taxes on the rare blood she supplied under contract to a laboratory). For a thorough discussion of tax consequences of transfers of body parts, see Note, *Tax Consequences of Transfers of Bodily Parts*, 73 COLUM. L. REV. 842, 849 (1973); Note, *The Sale of Human Body Parts*, 72 MICH. L. REV. 1182 (1974).

366. National Organ Transplant Act, 42 U.S.C. § 274e(c)(2) (1988); Unif. Anatomical Gift Act § 10(b), 8 U.L.A. 58 (1987).

those requiring significant human processing before use, nearly all body parts would be included because most require processing to some extent.

According to a report of the Office of Technology Assessment (OTA), "[t]he considerations that mitigate against the sale of organs for transplant may or may not apply to the sale of human tissues and cells for research and development."[367] Under current law, those considerations do not apply. The sale of all types of body parts—other than those mentioned in the UAGA or the NOTA—is not expressly prohibited by either common law or existing statutes.[368] Nevertheless, only a few types of human materials are currently sold in practice: whole blood and blood components, semen, breast milk, placentas, urine, sweat, saliva, hair, and teeth. The sale of other body parts like diseased organs or biopsy samples is probably lawful, but such transfers are uncommon.[369] Traditionally, these body parts possessed little significant value. Mr. Moore, for example, could probably have lawfully sold his diseased spleen to Dr. Golde.[370] The disposition stick appears to be fulfilled for these human materials. A person can lawfully donate, sell, or destroy them. One could conclude that such an important property stick actually represents full property rights—market-alienability is generally a good sign for property.

To be effective in practice, however, a right must be enforceable through adequate remedies. As applied to property, this includes the right to exclude others. Currently, when human materials are at stake, courts refuse to apply a tort theory such as conversion or trespass to interferences with another's property. Rather, courts prefer to apply the law of torts for interference with the person,[371] awarding damages for infliction of emotional distress, or lack of informed consent. For instance, in the landmark case *Moore v. Regents of the University of California*,[372] the California Supreme Court held Dr. Golde liable

---

367. CONGRESS OF THE UNITED STATES, OFFICE OF TECHNOLOGY ASSESSMENT, NEW DEVELOPMENTS IN BIOTECHNOLOGY 76 (1987).

368. Although it prohibits the sale of whole bodies, the common law is not clear about the sale of body parts. Most cases relate to the noncommercial nature of whole bodies, not to body parts. Moreover, some courts have distinguished between the whole body and its parts: "[W]e know of no Arkansas cases which extend this quasi-property right [in the whole body] to all of the body's organs . . . ." Fuller v. Marx, 724 F.2d 717, 719 (8th Cir. 1984).

369. *See* Note, *Tax Consequences of Transfers of Bodily Parts*, 73 COLUM. L. REV. 842, 845, n.21 (1973) (discussing the case of a student who sold 10 grams of thigh muscle for $150).

370. *See* Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991).

371. The nomenclature "torts for interference with property or persons" is from Prosser. WILLIAM L. PROSSER, HANDBOOK OF THE LAW OF TORTS, (4th ed. 1971).

372. Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991). For a review of the *Moore* case, see George J. Annas, *Outrageous Fortune: Selling Other People's Cells*, HASTINGS CENTER. REP., Nov.-Dec. 1990, at 36; Ivey, *supra* note 2; Lavoie, *supra* note 178; Patricia A. Martin & Martin L. Lagod, *Biotechnology and the Commercial Use of Human Cells: Toward an Organic View of Life and Technology*, 5 SANTA CLARA COMP. HIGH TECH. L.J. 211 (1989); Wells, *supra* note 178; Bergman, *supra* note 2, at 127; Henry L. Hipkens, Note, *The Failed Search for the Perfect Analogy: More Reflections on the Unusual Case of John Moore*, 80 KY. L.J. 337 (1990-91).

on the grounds of breach of fiduciary duty and lack of informed consent, but not on the grounds of conversion.[373] The *Moore* case is interesting because it is the first involving a broad scope of human tissue property issues. This case involved the removal of a patient's diseased spleen as part of leukemia treatment. Dr. Golde and his collaborators subsequently developed a highly valuable product from the spleen.[374] Moore, the patient, was never informed about the research and sued Dr. Golde for the conversion of his spleen.[375]

The tort of trespass to chattel requires the plaintiff to sustain actual injury.[376] With human tissues, establishing actual damage is nearly impossible because tissues are usually removed for diagnostic or therapeutic purposes, generally for the patient's welfare. Because the patient would have difficulty showing he would have used his tissue to successfully duplicate the research, a plaintiff would likely claim damages for conversion of body parts, like Moore did,[377] instead of trespass to chattel.

The majority in *Moore* held the patient had no ownership or possession rights to his spleen cells.[378] He had no right of possession because he "did not expect to retain possession of his cells."[379] In other words, he abandoned them. Notably, such an attitude is consistent with the California Health & Safety Code, which regulates the disposal of human tissues.[380] According to the majority's view, this public health statute voided or severely limited any right of possession in a body part.[381] The majority should have realized, however, such statutes regulate only public health and safety, not the possession of human body parts. These statutes can be interpreted to mean that the possession of human body parts must not endanger public health, but they cannot mean that such a possession is never compatible with public health. Moreover, according to the *Moore* court, the patient had no ownership rights in his spleen because the fate of human body parts is governed by special statutes rather than "abandoned to the general law of personal property."[382] Therefore, Mr. Moore's spleen could not have been converted. Having found no conversion action available under existing law, the court refused to extend liability for conversion any further because such liability could harm research as well as infringe on policy decisions belonging to the legislature. Furthermore, the court determined the patient's personal rights sufficiently protected him.

---

373. Moore v. Regents of the Univ. of Cal., 793 P.2d at 481.

374. *Id.*

375. *Id.*

376. State law primarily determines tort law; therefore damage awards can vary significantly. This discussion is limited to generalities.

377. *Id.* at 482.

378. *Id.* at 488-89.

379. *Id.* at 488-89. In a footnote, the court stated: "In his complaint, Moore does not seek possession of his cells or claim the right to possess them." *Id.* at n.20.

380. *Id.* at 489 (*citing* CAL. HEALTH & SAFETY CODE § 7054.4 (West 1994)).

381. *Id.*

382. *Id.* at 489.

The *Moore* decision has several shortcomings. First, it presumes abandonment in order to deny the patient any right in his body parts. This reflects the traditional view that once removed from the body, human tissue becomes waste material because it has no value.[383] Accordingly, the presumption that the patient abandons the removed material arises, unless otherwise specified.[384] This solution is sensible as long as the body parts are properly disposed and there is no ambiguity surrounding the value.[385] Problems arise, however, when the waste material is used in a manner the patient cannot imagine. Similar to consent as a prerequisite to treatment, the patient must be informed before the abandonment of a body part occurs. Information in both cases mitigates sharp differences in expertise between the patient and the health care professional or researcher. Suitable information should enable the patient to make the right choice about treatment, as well as the destruction, donation, or sale of his body parts. Abandonment requires an intent to relinquish all rights in an object. Without the relevant information regarding the potential use and value of a body part,[386] the patient cannot express a valid intent to abandon it. Obviously, the "fallacy of abandonment" has long served the interests of diverse commercial enterprises: "abandoned" placentas have been commercially exploited for various purposes; "abandoned" femoral heads have been removed during total hip prosthesis surgery and saved for use in other orthopedic patients without any notice; aborted fetuses have been used for cosmetic purposes; and while hair dressers sometimes

---

383. For expressions of this traditional view, see Arthur L. Caplan, *Blood, Sweat, Tears, and Profits: The Ethics of the Sale and Use of Patient Derived Materials in Biomedicine*, 33 CLINICAL RES. 448, 450 (1985) ("[B]iological materials involved [in commercial biotechnology] are almost always replenishable and often constitute waste materials, *at least from the point of the donor.*") (emphasis added); Allen B. Wagner, *Human Tissue Research: Who Owns the Results?*, 3 SANTA CLARA COMP. & HIGH TECH. L.J. 231, 234 (1987) ("[T]he patient probably intends to abandon [the tissue removed for therapeutic purposes], considering it to be repugnant material.").

384. *See* Browning v. Norton-Chidren's Hospital, 504 S.W.2d 713 (Ky. Ct. App. 1974). In *Browning*, a patient sued his doctor and hospital for cremating his amputated leg instead of burying it. Browning v. Norton-Children's Hospital, 504 S.W.2d at 714. The court ruled against the patient, holding that "[W]hen one consents to . . . an operation . . . (absent any specific reservation, demand, or objection to some normal procedure), he . . . accepts all the rules, regulations, and the modus operandi of that hospital" as to disposal of removed tissue. *Id.*; *see* Venner v. State, 354 A.2d 483 (Md. Ct. Spec. App. 1976). In *Venner*, a "body-pack syndrome" defendant did not say anything to the hospital nurses about the handling of his drug-containing stools, which were retrieved by the police. *Id.* at 499. The court held, "when a person does nothing . . . to indicate an intent to assert his right of ownership, possession, or control over such material, the only rational inference is that he intends to abandon the material." *Id.*

385. *See* Hardiman, *supra* note 199, at 242-44 (commenting the patient does not relinquish all interest in his excised tissue, as the doctrine of abandonment requires; he always retains an interest in the dignified treatment of the body part). Moreover, no abandonment is possible unless there is a "vacancy in possession"—that is, human body parts generally remain in a chain of possession. *Id.* at 244.

386. Arguably, relevant information is information the health professional or researcher knew before the transfer of the body part, but not information which becomes available only after the transfer. *Cf.* Moore v. Regents of the Univ. of Cal., 793 P.2d 479, 500 (Cal. 1990) (Broussard, J., dissenting).

offer to buy hair, they probably also take advantage of abandoned hair for cosmetic purposes. This enumeration is certainly not exhaustive. The presumption of abandonment is a bargain for the parties exploiting it because they can appropriate valuable human materials for free.

Second, courts' reasoning that the fate of human body parts is governed by special statutes rather than "abandoned to the general law of personal property" is not convincing. As experience shows, each time a dispute over human materials arises, courts discover shortcomings in existing statutes. This case-by-case method of legislation could have remained acceptable if transactions involving human materials remained uncommon. Such transfers, however, are increasingly prevalent. Even though the *Moore* case has been widely publicized, it is not the first case involving a dispute over human materials. *Hoffman-La Roche, Inc. v. Golde*[387] involved a dispute between two commercially interested parties over the ownership of a human cell line.[388] Hoffman-La Roche was accused of converting the cell line.[389] In another case, a researcher brought a claim based on his alleged tangible property rights in cells taken from his ailing mother.[390] He asserted he owned the intellectual property rights on a hybridoma developed with his mother's cells.[391] Both cases were settled out of court. Less publicized activities involve the processing of various body parts before use, for example, lyophilizing arterial walls and heart valves, and treating skin or bone. Such transactions give rise to disputes and result in a patchwork of inconsistent case law. The need for an inclusive legal solution for human materials, such as the property system, is becoming increasingly acute.

In *Moore*, the California Supreme Court also stated there is no need for a strict liability rule for human materials because "enforcement of physicians' disclosure obligations will protect patients against the very type of harm with which Moore was threatened."[392] This argument can be read in two equally dissatisfying ways. The first is that there can never be strict liability for conversion of human materials. Therefore, the only legal protection available flows from the personal rights of the immediate human source. Accordingly, third parties can never have a property-related remedy with respect to human body parts. This solution is not supported, however, by reality.[393] As Justice Broussard stated in his dissent, if a third party had stolen the cells from the UCLA Medical Center,

---

387. Hoffman-La Roche, Inc. v. Golde, No. C-80-3601-AJZ (N.D. Cal. 1981). The same Dr. Golde was also the defendant in the *Moore* case.

388. IVER P. COOPER, BIOTECHNOLOGY AND THE LAW 11-56 (1987).

389. For details on the case, see *id.* at 11-55; *see* Stephen Bent, *Ownership Rights in Tangible Biological Materials, in* BIOTECHNOLOGY PATENT PRAC. 1 (1985).

390. COOPER, *supra* note 388, at 11-57.

391. *Id.*

392. Moore v. Regents of the Univ. of Cal., 793 P.2d 479, 497 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991).

393. Even if this was the meaning of the court's decision, it would not be workable. With the increase in transactions involving human materials, the party most interested in a body part will not always be its human source, but increasingly a third party. The dispute about the cell line in *Hoffman-La Roche v. Golde* discussed previously is an example. *See supra* notes 388-91 and accompanying text. Thus, it is utterly unrealistic to leave a third party without any remedy.

there would be no question that a cause of action for conversion would lie against the thief.[394] As a result, there is only one way to read the court's decision: human body parts can be property for anyone, except the immediate human source. Ironically, this reasoning leads to the same result as the fallacy of abandonment—the human source of body parts is dispossessed without any compensation.

As to the policy argument that research and "innocent parties engaged in socially useful activities" could be harmed by "disabling civil liability,"[395] the *Moore* court ignored the reality of today's multi-billion dollar biotechnology industry. Raw human materials, other than transplantable organs, have little significant intrinsic value, and therefore, the industry could afford them. As to pure scientific research, percentage agreements could ensure that pro-rata payment would be due only if commercial exploitation ensues. In the long run, scientific research and biotechnology industries could be severely impacted by decisions such as *Moore*. Knowing that researchers can seize body parts with impunity, individuals may no longer trust the scientific community, and insist that everything arising from their bodies be destroyed. Certainly, this outcome is not desirable.

The California Supreme Court has not distinguished the interests at stake in two different situations. The first situation concerns the period prior to the body part's removal, when the part is a *personne par destination*, the legal fate of which is still linked to that of the person herself. In such a case, the rules of informed consent should assume the role they played in the *Moore* decision. The second situation concerns the post-removal period when the body part is no longer a *personne par destination*, embedded in the person's body. Although the law applies remedies derived from personal rights to protect interests in these body parts, the practice may be insufficient due to the transferability of such objects. Property related remedies should also apply. The exclusive application of informed consent in either situation leads to confusion. A patient would rarely deny her consent to medical treatment merely because she does not want to give tissues for which she has no use. For this reason, courts should distinguish these two steps, and recognize that the law of property provides the most adequate legal device to protect interests in body parts.

The application of *Moore* to body parts other than human cells remains unclear. In rejecting the relevancy of property law for Moore's tissue, the court stated, "human tissues, transplantable organs, blood, fetuses, pituitary glands, corneal tissue, and dead bodies" are treated as *objects sui generis*, rather than as abandoned to the general law of property.[396] The scope of the California Supreme Court's decision appears to include all or most human body parts.[397]

To summarize, the law concerning the right to exclude others from body parts is very restrictive when a direct human source is involved. In cases in which the enforceability of the exclusion right would have been more difficult to

---

394. *Id.* at 504 (Broussard, J., dissenting).
395. Moore v. Regents of the Univ. of Cal., 793 P.2d at 493.
396. *Id.* at 489.
397. *Id.*

deny, courts have utilized the concept of abandonment to bar any remedy based on conversion grounds. Both legal strategies converge toward a unified goal: depriving the direct human source of any property-related remedy. Unlike the sales ban on body parts for transplantation or therapy, a restriction on property-related remedies concerning human materials does not serve human dignity. The *Moore* decision was motivated by the need to avoid "disabling civil liability" of "innocent parties who are engaged in socially useful activities."[398] Implying that basic research and applied research are distinguishable, the court unduly favored the biomedical industry at the expense of academics. As already noted, the net result of this paternalistic decision may be an indiscriminate distrust of scientific research by the public.

ii. *Ova and sperm.*[399] Gametes do not conform to the general classification scheme for human materials. Arguably, sperm and ova can be considered either "transplantable" or "for use in therapy," depending on how one views reproductive technology. Sperm and blood share a similar legal status. Neither are covered by NOTA's specific provisions,[400] but both are covered by the UAGA.[401] Therefore, donations, as well as inter vivos sales, are allowed. As with blood sales, sperm sales have been qualified as the provision of a service.[402] Ova are sellable as well. The difference in price between gametes probably reflects the relative scarcity of ova compared to sperm[403] and the inconvenience in procuring each type. It is difficult, however, to distinguish between the price paid for ova and the just compensation for the inconvenience involved in sampling or service. Hence, ova sales may be disguised as a "provision of service."[404]

iii. *Tissues taken from nonviable fetuses and embryos.* Human materials that cannot be transplanted are regulated only by UAGA.[405] Tissues can be donated for the various purposes provided by UAGA and theoretically can be sold, provided they are not purchased or sold "for transplantation or therapy."[406] One American corporation purchased a thousand pairs of fetal kidneys from a South Korean doctor for research purposes.[407] Although these transactions

---

398. *Id.* at 493.

399. *See generally* Robert P.S. Jansen, *Sperm and Ova as Property*, 11 J. MED. ETHICS 123 (1985) (discussing the medical, rather than legal, issues arising from gametes).

400. 42 U.S.C. § 274e(c)(1)(1988).

401. UNIF. ANATOMICAL GIFT ACT § 1(7), 8A U.L.A. 30 (1987).

402. *Id.*

403. Unlike sperm, which continue to proliferate during adult life, the amount of ova is determined at birth.

404. See, for example, the classified ad, published in the Tuesday, May 10, 1994 STANFORD DAILY: "Women, Egg Donors Needed . . . Ages 21-28; healthy . . . $2500 Stipend plus expenses." In this ad, "expenses" seems clearly distinct from the "stipend." This last term is probably used on purpose, to insist on the "service" aspect of the transaction. In the same randomly picked issue, there was one other ad for egg donors ("compensation $2000") and one for sperm donors ("up to $120/week").

405. Like in the case of nonviable whole fetuses, the law does not distinguish between biologically alive or dead tissue.

406. UNIF. ANATOMICAL GIFT ACT § 10(a) (1987).

407. SCOTT, *supra* note 3, at 2.

occurred years ago in a foreign country, similar purchases would probably be lawful today in the United States.

iv. *Preembryos.*[408] No court has determined preembryos to be either persons,[409] or property.[410] In *Davis v. Davis,*[411] the court stated preembryos "occupy an interim category that entitles them to special respect because of their potential for human life."[412] The *Davis* court confronted the question of which member of an estranged couple should decide the fate of their common frozen embryos.[413] The court addressed the preliminary question of whether the preembryos were indeed persons stemming from the different interests at stake.[414] If preembryos were human persons, their attribution or custody would depend on their own best interest by analogy to the attribution of parental custody in divorce cases. If they were not persons, the only interests at stake would be those of their progenitors.[415] After the court decided preembryos were not persons, it was not necessary for the court to make any further distinction to decide the case. Whatever the legal status granted the preembryos whether it is property or an "interim category," the decision fairly balances the interests of both ex-partners. The court proceeded further with the "interim category" distinction for "cosmetic moral vocabulary," rather than for legal reasons.

Beyond these terminology disputes, it is beneficial to define the rights enjoyed by humans in regard to their preembryos. Most courts and commentators admit the "parents" can implant, bear, donate, store, or destroy the frozen preembryos.[416] As for commercial transactions, it is uncertain whether preembryos conform to either NOTA or UAGA, because their transplantability is questionable. Moreover, the court in *Davis* cast doubt on the applicability of the UAGA to preembryos because, unlike other tissues, preembryos have the potential for human life.[417] However, sales of preembryos would be illegal. Thus, with

---

408. For general discussions about the legal status of embryos, see *Developments in the Law—Medical Technology and the Law*, 103 HARV. L. REV. 1519, 1537 (1990); Lori B. Andrews, *The Legal Status of the Embryo*, 32 LOYOLA L. REV. 357 (1986); ETHICS COMMITTEE OF THE AM. FERTILITY SOC'Y, *Ethical Considerations of the New Reproductive Technologies*, 46 FERTILITY & STERILITY 1S (Supp. 1 1986); Alise R. Panitch, *The Davis Dilemna: How to Prevent Battles over Frozen Embryos*, 41 CASE W. RES. L. REV. 543 (1991); John A. Robertson, *Resolving Disputes over Frozen Embryos*, HASTINGS CENTER REP., Nov.-Dec. 1989, at 7.

409. *See* Roe v. Wade, 410 U.S. 113 (1973).

410. *See generally* York v. Jones, 717 F. Supp. 421, 426 (E.D. Va. 1989) (finding husband and wife had proprietary right in prezygote only because their agreement provided that in the event of a divorce, ownership of the prezygote "must be determined in a property settlement").

411. Davis v. Davis, 842 S.W.2d 588, 597 (Tenn. 1992), *cert. denied sub nom.*, Stowe v. Davis, 113 S. Ct. 1259 (1993).

412. *Id.* at 589.

413. *Id.*

414. *Id.* at 594-95.

415. *Id.* at 593.

416. *Id.*

417. *See id.* at 596. ("These statutes address the question of who controls disposition of human organs and tissue with no further potential for autonomous human life; they are not precisely controlling on the question before us, because the 'tissue' involved here *does* have the potential for developing into independent human life . . . .").

the exception of sales, the prerogatives available to preembryos constitute an almost complete disposition "stick" of property rights, similar to the one available for transplantable organs.

The case law is split on the enforcement of rights enjoyed by the progenitors, also known as the exclusion "stick." In *York v. Jones*,[418] an institute for reproductive medicine refused to transfer the frozen preembryos of a couple who moved out of state.[419] The court recognized a cause of action in detinue[420] based on their property interest in the frozen preembryos.[421] Another relevant case, *Del Zio v. Columbia Presbyterian Medical Center*,[422] involved the willful destruction of preembryos during incubation by the chairman of the medical department in which the culture was housed.[423] The couple sued the chairman and the hospital for infringement of their property rights in the preembryos, as well as for intentional infliction of emotional distress.[424] After long deliberation, the jury rejected the property claim but awarded damages for emotional distress.[425] The legal solution employed is similar to those utilized in dead body cases and in *Moore*—torts for interference with the person are preferred over torts for interference with property.

v. *Body parts of molecular size.* As recognized throughout this article, the law distinguishes between materials of human and nonhuman origin in carving out exceptions to the general law of personal property. There is no doubt that chemicals and biological materials of nonhuman origin are considered plain property—they can be owned, sold, converted, and stolen.[426] The court in *Moore v. Regents of the University of California* [427] considered relevant the distinction between human and nonhuman materials, even for materials as small as cells.[428] Arguably, the "human nature" of these cells resides in their whole set of human

---

418. York v. Jones, 717 F. Supp. 421 (E.D. Va. 1989).

419. *Id.* at 423-24.

420. An action in detinue is "a form of action which lies for the recovery, *in specie*, of personal chattels from one who acquired possession of them lawfully, but retains it without right, together with damages for the detention. Possessory action for recovery of personal chattels unjustly detained." BLACK'S LAW DICTIONARY 450 (6th ed. 1990).

421. *Id.* at 427.

422. Del Zio v. Columbia Presbyterian Medical Ctr., No. 74-3588 (S.D.N.Y. Nov. 14, 1978).

423. *Id.* at 2.

424. *Id.* at 1.

425. *Id.* at 10. Mrs. Del Zio was awarded $50,000 and Mr. Del Zio only $3. *Id.* Ironically, the value of Mr. Del Zio's contribution would have exceeded this token amount had he sold his sperm on the open market.

426. COOPER, *supra* note 388, § 11. In some states, property rights in biological materials are recognized by statute. In Illinois, for example, "property" is defined to include "samples," "cultures," "microorganisms," and "specimens." ILL. ANN. STAT. ch. 720, para. 15-1 (Smith-Hurd 1995).

427. Moore v. Regents of the Univ. of Cal., 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991).

428. *Id.* at 488-97.

genetic information.[429] Intuitively, one would expect materials of molecular size to be governed by the general laws of personal property that apply to human materials. The laws of biology and chemistry probably fix the limit. The cell is the smallest eucaryotic living unit, completely equipped with metabolic machinery. At this level, a human cell is easily distinguished from cells of other species by various tests comparing surface antigens, enzymes, and other structural components governed by the genome.

If the cellular membrane is broken and the increasingly smaller subcellular components analyzed, the differences between human and nonhuman material becomes indistinguishable. The basic building blocks of biological structures, amino acids and nucleotides,[430] are common to all living species.[431] Generally, human protein and nucleic acid sequences differ somewhat from their nonhuman equivalents, but they are often very similar.[432] These minute structural variations make the continued distinction between human and nonhuman materials questionable. For example, application of general personal property law in addition to NOTA and UAGA to two protein X's with a sequence of Y's, which differ only in whether they contain a human or baboon sequence, would be absurd. Moreover, numerous human materials of molecular size can presently be synthesized through genetic engineering. Similarly, it would be pointless to apply NOTA and UAGA to a molecule isolated from a human body, but still apply the general law of personal property to a synthetic copy of the molecule.

These problems have been accounted for in practice. Biotechnology professionals do not distinguish between human and nonhuman products at the molecular level.[433] No court ever considered this question. In summary, there appears to be a lower limit—probably at the cell level—below which the special limitations of property rights on human materials do not apply.

Human materials of cellular and smaller sizes are now sufficiently understood to be replicated or modified by genetic engineering. This characteristic adds an increasingly important aspect of property rights to human materials—intellectual property. The most relevant intellectual property rights in this context are patents. Patents preclude others from making, using or selling an invention.[434] The patent office has issued numerous patents on cell lines, genes,

---

429. At the time of their sampling, Moore's cells contained a whole set of his chromosomes, as modified by the specific mutation occuring in hairy cell leukemia. *Id.* at 480-82.

430. For a general reference on molecular biology, see PAUL BERG, DEALING WITH GENES—THE LANGUAGE OF HEREDITY (1992).

431. Depending on species, nucleotides and amino acids can show some minor variations, but most are common to all species.

432. One author estimated that man and chimpanzee share 98.4% of their genetic sequences. JARCEL DIAMOND, THE THIRD CHIMPANZEE: THE EVOLUTION AND FUTURE OF THE HUMAN ANIMAL 23-27 (1992).

433. In his study of biotechnology-related contracts in North America, Jean-Christophe Galloux found that the contracts usually do not distinguish genetic and biological materials according to their human or nonhuman origin. Jean-Christophe Galloux, *La Préfiguration du Droit de la Génétique par les Contrats de Biotechnologie: L'expérience Nord-Américaine*, REVUE INTERNATIONALE DE DROIT COMPARÉ 583, 588 (1992).

434. 35 U.S.C. § 271(a) (1988).

and other molecules of human origin.[435] Although, there were initial outcries based on moral and ethical reasons, the practice of patenting human cell lines, nucleic acids, and proteins is generally accepted today. Criticisms have been generally directed to the principle of patenting genes. The most sensible argument against patenting human genes is quantitative rather than qualitative. If all or most genes composing the human genome are known and patented, the global sum of these patents comprise the genetic definition of man.[436]

Until recently, only basic biological structures and molecules were patented, mainly due to technical limitations.[437] Arguably, these limitations naturally set an upper limit on the size of biological materials sought to be patented; no biological materials larger than cells should be patented because they are too complex to be fully understood, engineered, and duplicated. Presently, scientists can modify complex multicellular organisms by inserting foreign genes into their genome. As a result, these scientists can secure patents on such multicelluar organisms.[438] Although some technical limitations still prevent direct application of this technique to humans, these limitations are not insurmountable. Some have expressed the concern that patents could be issued on human beings. As a result, concomitant to its issuance of a patent on the "Harvard mouse," the United States Patent and Trademark Office (PTO) stated it "considers nonnaturally occurring, non-human multicellular organisms, including animals, to be patentable subject matter."[439] Authors have widely commented and criticized this proposition.[440]

---

435. *See* Diamond v. Chakrabarty, 477 U.S. 303, 309 (1980) (stating the statutory subject matter of the Patent Act included "anything under the sun that is made by man") (citation omitted).

436. For a discussion denouncing genetic reductionism, *see* Evelyn Fox Keller, *Genetics, Reductionism, and the Normative Uses of Biological Information: Response to Kevles*, 65 S. CAL. L. REV. 285, 291 (1991) ("The reduction of organisms to their genes promotes an effacement of the enormous differences between bacteria and humans that are so critical for issues of patenting."). However, patenting of the global summation of man's genetic definition will probably never occur. Patent law requires that in addition to the sequence, some fucntion of the gene or protein has to be disclosed for patentability. As a result, even if the whole genome is sequenced, only the genes whose functions are known would be patentable. The much debated National Institute of Health (NIH) patent application directed to scores of human gene fragments was rejected for this reason, among others. *See, e.g., Gene Patents—The Decision of the U.S. Patent Office Not to Protect Gene Fragments Is Welcome, but Questions Remain*, NATURE 348-359 (1992)

437. Keller, *supra* note 436, at 291.

438. Scientists actually insert the foreign gene by microinjection at a very early stage when the potential animal is contained in only one cell, the fertilized egg. After implantation and development of the egg, each cell of the newborn animal contains the inserted genetic modification. The first and most famous animal patent was issued on such "transgenic non-human mammals," whose germ and somatic cells contained an activated oncogene sequence. It is usually referred to as the "Harvard mouse" or "oncomouse." U.S. Pat. No. 4,736,866.

439. 1077 OFFICIAL GAZETTE PAT. & TRADEMARK OFF. 24 (Apr. 7, 1987).

440. *See, e.g.*, John M. Czarnetzky, *Altering Nature's Blueprints for Profit: Patenting Multicellular Animals*, 74 VA. L. REV. 1327 (1988); Rebecca Dresser, *Ethical and Legal Issues in Patenting New Animal Life*, 28 JURIMETRICS 399 (1988); Elizabeth Joy Hecht, Note, *Beyond* Animal Legal Defense Fund v. Quigg: *The Controversy Over Transgenic Animal Patents Continues*, 41 AM. U. L. REV. 1023 (1992).

Thus, the "size-limit" beyond which human materials are not patentable is currently unclear. According to the scarce directions given by the law and the PTO, it is hovering somewhere between human cell lines and whole human beings.

V. CONCLUSION

This Article provides a legal overview of all human materials, ranging from the whole person to protein molecules. Each topic addressed deserves individual treatment in a separate essay. Unfortunately, brief treatment of each in a short piece inevitably leads to some aspects being overlooked. The goal of this Article was not, however, to discuss each category in detail and extrapolate individualized policies. Rather, the goal was to provide the reader with a sense of the legal landscape and attendant problems surrounding human materials, in a systematic fashion.

The first question to resolve when dealing with human materials is whether the entity deserves the status of a person. Historical developments aside, answering this question is often difficult because modern medical technology has produced and will continue to produce various entities that occupy the boundary between subjects and objects. The dying person, the brain-dead person, the fetus at or before birth, the anencephalic person, and the fetus in a brain-dead woman are all difficult to classify. This author has attempted to discuss the response of the current law to the emergence of each of these entities.

Once classified as objects, human materials require further distinctions. Their material and symbolic proximity to the subject, as well as their potential impact on human dignity, makes courts, legislatures, and the public feel uncomfortable in handling human materials as mere commodities. In order to protect human dignity, the law has indiscriminately limited the various "sticks" of property rights available to human objects. For example, limiting the disposition of transplantable organs by banning their sales can be an efficient legal device for protecting human dignity. Conversely, limiting the property-based remedies available to individuals—as was done in *Moore v. Regents of the University of California*—does nothing to promote the dignity of human life. These results are products of the traditional legal method which has been applied to human materials. Many courts have found that no property rights exist in human objects, and because of practical realities, legislatures have sporadically added or codified statutory law accordingly. This author advocates admitting full property rights to human objects with limitations applying only when complete vesting threatens human dignity. This approach is preferable in a scientific age during which the uses of and transactions involving human objects are rapidly multiplying.