

*Article**Issues of Property, Ethics and Consent in the Transplantation of Fetal Reproductive Tissue**Heather J. Meeker* †**Table of Contents**

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**I. Introduction**

In January 1994, a team of doctors led by Roger Gosden at the University of Edinburgh announced the successful transplantation of the ovaries of fetal sheep to adult animals, a procedure that could soon be carried out on humans.<sup>1</sup> Reaction was immediate and emotional. The idea that fetal reproductive tissue could be used to create "grandmothers who were never mothers" and the "genetic offspring of a dead fetus"<sup>2</sup> raised ontological and ethical questions that elicited an impassioned response from the public, European governments, and the United States legal community.<sup>3</sup>

The controversy over transplantation of fetal germ cells is part of a broader ethical debate on the use of fetal tissues in medical treatment and research. Transplanted fetal tissue has been recently used to treat Parkinson's disease<sup>4</sup> and diabetes.<sup>5</sup> But the use of

reproductive fetal tissues raises "a new set of ethical and legal issues"<sup>6</sup> on which there is little consensus in this country.

This Article discusses some of the biological, legal, and ethical implications of transplanting fetal germ cells. Part II explains how the technology differs from current infertility treatments. Part III discusses the regulatory and ethical issues involved in the transplantation of fetal reproductive tissue. Part IV sets forth in detail several doctrines of property law on which consent to donate fetal tissue may be based.

## **II. The Technology**

### **A. Current Methods for Treating Infertility**

The treatment of infertility<sup>7</sup> has been a booming business for more than a decade.<sup>8</sup> The course of treatment for couples who cannot conceive a child without medical assistance usually proceeds from the least invasive to the most invasive procedure.<sup>9</sup> For instance, artificial insemination is available when sperm dysfunction causes infertility.<sup>10</sup> Depending on the cause of infertility-and the financial resources of the infertile couple-treatment may proceed to in vitro fertilization ("IVF").<sup>11</sup>

IVF was developed in the late 1970s.<sup>12</sup> "In vitro" literally means "in glass,"<sup>13</sup> and gives rise to the familiar term "test tube baby."<sup>14</sup> IVF involves mixing sperm and ova in a petri dish, and implanting the resulting embryo into the womb of the gestational mother.<sup>15</sup> The ova used in the process may be harvested from either the gestational mother or a donor genetic mother. Donor ova are necessary when a woman seeks IVF because her own ova are too old or otherwise incapable of fertilization.<sup>16</sup>

Today, IVF is widely practiced. However, it has a disappointing success rate of less than one in four.<sup>17</sup> In addition, its availability is limited by a severe lack of willing egg donors.<sup>18</sup> Egg donation is time-consuming, painful, invasive, and dangerous.<sup>19</sup> Consequently, egg donor services are expensive, commonly costing thousands of dollars.<sup>20</sup> A recent article in the *New England Journal of Medicine* estimated the "cost of a successful delivery" using IVF to range from \$44,000 to \$800,000.<sup>21</sup>

### **B. Fetal Germ Cell Transplants**

The drawbacks of IVF have motivated medical researchers like Doctor Gosden to seek alternative infertility treatments.<sup>22</sup> Gosden's fetal germ cell transplant procedure offers several advantages. First, it relies on fetuses, of which there is an ample supply from elective abortion. At a stroke, Gosden's procedure could transform the contours of infertility treatment from extreme scarcity-expensive and dangerous egg donation-to extreme abundance-each fetus painlessly providing one or more women with a lifetime of fertility. Second, the costs of Gosden's procedure, while necessarily still speculative for human treatment, may rival or fall below the cost of a single round of IVF. Finally, successful transplantation provides the recipient with a lifetime of fertility; subsequent pregnancies can be achieved without medical intervention.

Transplantation of fetal germ cells differs in method and result from existing fertility treatments. Unlike in IVF, conception does not take place in vitro, but in vivo. The fetal ovary, once transplanted into the recipient, grows rapidly to maturity and begins producing ova, entirely replacing the missing or non-functional ovary.<sup>23</sup> Ovulation and conception then take place naturally-in the Fallopian tube rather than in the laboratory.<sup>24</sup> The ova produced carry the DNA of the fetal donor, not the adult recipient.<sup>25</sup>

In contrast to existing fertility treatments, which are simply temporary expedients to conceive,<sup>26</sup> fetal ovary transplants provide health benefits to the recipient. Healthy ovaries perform both a generative function of oocyte maturation and a vegetative function of estrogen and progesterone production.<sup>27</sup> In women who suffer from "gonadal dysgenesis," neither function is performed.<sup>28</sup> This results in both lifelong sterility and a variety of health problems associated with low estrogen levels, such as cardiovascular disease and bone demineralization.<sup>29</sup> Women who have gone through menopause or who have undergone a complete hysterectomy also experience sterility and estrogen-deficiency ailments.<sup>30</sup> Although health problems stemming from insufficient estrogen can be treated with hormone injections, such therapy does not restore fertility.<sup>31</sup> These women may benefit from fetal reproductive tissue transplants not only by becoming fertile, but also by permanently regaining the hormonal production and regulation of a functioning ovary.<sup>32</sup> In contrast, when such women undergo existing fertility treatments, their estrogen levels return to abnormally low levels once the pregnancy is over, and there is no expectation of continuing health benefits.<sup>33</sup>

Like most mammals, female humans produce all of their "germ cells" or oocytes well before birth.<sup>34</sup> In fact, the number of oocytes dramatically decreases during late gestation and childhood.<sup>35</sup> Female midterm fetuses have several million oocytes,<sup>36</sup> newborns around one million,<sup>37</sup> and pubescents approximately 250,000.<sup>38</sup> These remaining quarter of a million oocytes are sufficient for the

average reproductive life span.<sup>39</sup> Because nature supplies the fetus with sufficient oocytes to survive the process of pre-natal and childhood attrition, one fetus, at least theoretically, can provide enough germ material for several mature women.<sup>40</sup> If full ovary transplants were performed, a fetus could supply one or two adult women with tissue to overcome sterility and hormonal deficiency.

To date, fetal ovary transplants have only been carried out on animals. Roger Gosden and his team are, of course, optimistic that the procedure will work on humans.<sup>41</sup> Gosden states, "These prospects for germ cell transfer are not merely wishful thinking but are borne out by a large body of critical experimental evidence in animals."<sup>42</sup> While rejection of the transplanted tissue by the recipient's immune system is often a problem with human transplants,<sup>43</sup> it is unlikely to prevent fetal tissue transplants for two reasons. First, rejection of non-fetal tissue has been successfully minimized by treatment with immunosuppressants such as cyclosporine<sup>44</sup> and monoclonal antibodies.<sup>45</sup> Second, many fetal tissues appear to be "immunologically privileged," or especially resistant to rejection.<sup>46</sup> While fetal ovaries have yet to be tested,<sup>47</sup> they may well be similarly privileged.

However, transplantation of ova from aborted fetuses raises another medical issue. The requirement that an individual survive through childhood and adolescence in order to reproduce helps to ensure that defective genetic sequences are not passed on. The genes of ova taken from an aborted fetus have not undergone this test. Thus, pregnancies resulting from fetal ovary transplants may have an increased risk of birth defects and other genetically transmitted diseases. Gosden points out that many of the worst genetically transmitted diseases can be tested at the fetal stage<sup>48</sup> and suggests that fetal reproductive tissue may be screened to prevent the transmission of defective genetic sequences. However, this argument is not convincing. First, it assumes too much knowledge on the part of scientists; many genetic defects are certainly still unknown or unidentified.<sup>49</sup> Second, it might be difficult to test ova, because some genetic disorders are only expressed as the result of the fully combined gene sequences of both parents.<sup>50</sup> Third, it leaves the door open for eugenic selection, which is widely rejected on moral grounds.<sup>51</sup>

### **III. Legal and Ethical Issues for Fetal Reproductive Tissue Transplants**

#### **A. Regulatory Issues**

Several European governments have taken a strong stand regarding treatment of infertility. The United Kingdom has already banned not only the use of fetal ovarian tissue, but the use of fetal eggs for IVF-a procedure that is not yet available.<sup>52</sup> France and Italy are calling for a broad ban on all reproductive technologies that will restore fertility to post-menopausal women.<sup>53</sup>

In contrast, there is currently little regulation of medically assisted reproduction in the United States.<sup>54</sup> The only federal statute that has specifically addressed the fertility industry is the Fertility Clinic Success Rate and Certification Act of 1992.<sup>55</sup> The Act is primarily directed toward consumer protection, but also authorizes the Centers for Disease Control to develop standards for certification of fertility clinics,<sup>56</sup> suggesting that federal regulation may be imminent. However, if human fetal germ cell transplants were feasible today, most of the relevant regulatory law would lie in state statutory schemes pertaining to the general use of fetal tissue in therapeutic transplantation.

##### *1. The Federal Moratorium*

The federal government currently controls the extent of fetal tissue transplantation solely through its allocation of research funding. Federal law explicitly defers regulation of the use of fetal tissue to the states.<sup>57</sup> However, in 1988, the Reagan administration injected its anti-abortion political philosophy into the field of science funding by taking a stand against fetal tissue implantation. In that year, the National Institutes of Health ("NIH") began a voluntary moratorium, banning the use of tissue from elective abortions in fetal tissue research. It did so with the explicit intention of delaying further research pending discussion of the legal and ethical issues involved.<sup>58</sup> In September of the same year, an NIH Advisory Committee voted unanimously to recommend that the moratorium be lifted.<sup>59</sup> However, the moratorium remained in place, despite the Advisory Committee's recommendation.<sup>60</sup> President Bush never lifted the ban while he was in office.

Although the Reagan/Bush moratorium was a lightning rod for controversy, it did not halt all fetal tissue research. Because the moratorium only applied to federally funded research, private research could-and did-continue during the moratorium.<sup>61</sup> In addition, an exception to the moratorium that permitted funding for fundamental scientific research allowed the NIH to spend \$45 million on fetal tissue research while the moratorium was in place.<sup>62</sup> Also, the moratorium did not affect research in Europe and Britain-where Gosden's team developed its new procedure.

In January 1993, on his second day in office, President Clinton lifted the moratorium on federally funded fetal tissue research.<sup>63</sup>

Congressional hearings on the regulation of fetal tissue research soon followed.<sup>64</sup> In March 1993, Congress passed the National Institutes of Health Revitalization Act.<sup>65</sup> This Act amended the Public Health Service Act to authorize research on human fetal tissue transplantation without regard to whether the tissue is obtained from a spontaneous or induced abortion.<sup>66</sup>

It is unlikely that the debate concerning federal funding of fetal tissue transplants is over. The current administration has merely sidestepped the issue by lifting the NIH moratorium. States are still free to legislate against the use of fetal tissue, and, as demonstrated by the federal moratorium, NIH funding of fetal tissue research may be only as healthy as the tenure of the current administration.

The influence of politics on federal funding of research addressing human reproduction was underscored quite recently. On December 3, 1994, in the wake of a resounding Democratic electoral defeat,<sup>67</sup> President Clinton ruled out using federal money to support work on human embryos specifically created for research purposes.<sup>68</sup> The President, citing "profound ethical and moral questions" associated with the subject, refused to follow the contrary recommendation of a National Institutes of Health panel.<sup>69</sup> Nevertheless, the President's order did not specifically bar federal support for research carried out on left-over embryos from IVF clinics.<sup>70</sup>

## 2. State Laws Regarding the Use of Fetal Tissue

State laws regarding fetal tissue donation address two issues: who may give consent for donation, and what may be done with the tissues once they are donated. The Uniform Anatomical Gift Act ("UAGA"), which has been adopted in every state, permits either parent to donate a dead fetus.<sup>71</sup> The circuitous path by which the UAGA is applied to fetal donation demonstrates that the act was not written with fetal tissue transplants in mind. The UAGA defines a "decedent" to include a dead or stillborn fetus.<sup>72</sup> It then specifies a list of relatives who are authorized to donate the body of a "decedent."<sup>73</sup> That list contains (1) the "spouse," (2) an "adult son or daughter"-none of which a fetus will have-and finally, (3) "either parent."<sup>74</sup>

State statutes defining the legal uses of an aborted fetus vary widely in form and purpose. The Arkansas statute exemplifies those aimed narrowly at public health and sanitation: it directs that "the fetal remains and all parts thereof" should be "disposed of in a fashion similar to that in which other tissue is disposed."<sup>75</sup> Twenty-five states have enacted statutes specifically authorizing the donation of fetal tissue for therapeutic use.<sup>76</sup> Only a few states have passed statutes prohibiting the use of fetuses.<sup>77</sup>

State statutes that set moral or ethical standards for disposal of fetal tissue have consistently failed constitutional scrutiny. In *City of Akron v. Akron Center for Reproductive Health*,<sup>78</sup> the United States Supreme Court struck down as impermissibly vague a local ordinance that stated, "Any physician who shall perform or induce an abortion upon a pregnant woman shall insure that the remains of the unborn child are disposed of in a humane and sanitary manner."<sup>79</sup> Likewise, a Louisiana statute requiring the "decent burial" of the "remains of the unborn child" was struck down by a federal district court as not narrowly tailored to serve a compelling state interest.<sup>80</sup>

## 3. Constitutional Limitations on the Regulation of Fetal Tissue Use

Some supporters of fetal tissue research take comfort in the constitutional guarantees of *Roe v. Wade*.<sup>81</sup> They believe the *Roe* line of authority implies that the state cannot prevent a woman from conceiving, whatever the purpose of conception.<sup>82</sup> Moreover, under *Roe* the state cannot prevent a woman from terminating a pregnancy until fetal viability, when the state's interest in fetal life becomes compelling.<sup>83</sup>

However, the guarantees of *Roe* are legally and technically precarious. *Roe* protects access to abortion based on the fundamental right of privacy.<sup>84</sup> Although the result of *Roe* may be desirable, its definition of the right to choose whether to bear a child as a part of the privacy right subjects it to the vagaries of jurisprudence on non-textual rights.<sup>85</sup> For this reason, and because of the political controversy that surrounds the abortion issue, even supporters of *Roe* remain concerned that it will be overturned.<sup>86</sup>

Moreover, the facts underlying *Roe* are becoming outdated. *Roe* holds that the state's interest in protecting fetal life does not become compelling until the fetus is "viable."<sup>87</sup> This line, drawn in *Roe* and affirmed in *Planned Parenthood v. Casey*,<sup>88</sup> is shifting as technology advances. In *City of Akron*, Justice O'Connor wrote:

Recent studies have demonstrated increasingly earlier fetal viability. It is certainly reasonable to believe that the fetal viability in the first trimester of pregnancy may be possible in the not-too-distant future . . . . The *Roe* framework, then, is clearly on a collision course with itself.<sup>89</sup>

If medical technology advances fetal viability to the date of conception, a strict application of the *Roe* framework could prevent the use

of fetal tissue. Even if a woman retained the right to terminate her pregnancy,<sup>90</sup> the state's interest in protecting potential life might allow it to mandate that the fetus be allowed to complete gestation after the abortion. This would, of course, prevent the use of the fetus for transplant purposes.

## **B. Ethical Issues**

Many of the ethical issues surrounding transplantation of fetal reproductive tissue stem from the technique's reliance on abortion as a source of transplant tissue. Two ethical arguments advanced in opposition to fetal ovary transplants involve abortion. One argument is that any technology based on abortion is immoral because abortion itself is inherently wrong. A second is that the technology is immoral because it encourages women to elect abortion.

A complete discussion of the ethical implications of abortion is beyond the scope of this Article. However, there is no way to reconcile the Gosden technology with the absolutist position that abortion is inherently wrong. Those opposing abortion on moral grounds object to transplantation of fetal tissue from elective abortions, but sometimes do not object to the use of tissue from spontaneous abortions.<sup>91</sup> However, scientists usually consider the reproductive tissue from spontaneously aborted fetuses unusable for transplants because there is a high risk of genetic anomaly<sup>92</sup> and the tissue is likely to be necrotic.<sup>93</sup> Thus, the transplantation of fetal reproductive tissue is inextricably tied to elective abortion.

The second objection, that the availability of fetal tissue transplants will encourage abortions, proceeds along two lines. First, a woman may be motivated to abort in order donate the fetus' reproductive tissue to help solve another's fertility problem.<sup>94</sup> Second, a market in reproductive tissue may develop, leading women to abort for a pecuniary motive.

There is no empirical proof that the encouragement feared by opponents of fetal tissue transplants will take place on a significant scale. During the Reagan-era ban on fetal tissue research, 1.6 million elective abortions were performed in the United States in a single year.<sup>95</sup> Even though abortions have recently been reported at a thirteen-year low, there were still over 1.5 million abortions performed in 1992.<sup>96</sup> Given the supply of fetal tissue already available from elective abortions, there is no reason to expect that the availability of fetal ovary transplants will significantly increase the number of abortions.

Although there have been several news reports of women who expressed the desire to conceive in order to provide critically ill relatives with fetal tissue for transplants,<sup>97</sup> there has never been a documented case in which the result was achieved.<sup>98</sup> Moreover, several commentators have convincingly argued that this result could be avoided by limiting a woman's right to specify the recipient of a fetal tissue donation.<sup>99</sup>

However, two recent news stories demonstrate that the availability of tissue donation procedures may influence the decision to conceive or deliver a child. The first involved a decision to conceive a child to provide tissue for transplantation. In 1989, Mary and Abe Ayala conceived a child to be a bone marrow donor for their older daughter.<sup>100</sup> Medical ethicists reacted with shock and disgust. In the opinion of Phillip Boyle of the Hastings Center, the decision was "outrageous."<sup>101</sup> Law and medicine professor Alexander Capron commented that the Ayala decision was unethical because a child should not be conceived for any reason other than the child's own welfare.<sup>102</sup>

The second story concerned a woman's decision to carry an anencephalic baby ("Baby Theresa") to term to provide organs for harvest. Anencephaly is gross developmental defect in which most of the brain fails to form.<sup>103</sup> While the remaining brain stem can support the heart and lungs, most anencephalics do not survive to birth, and those that do have a life expectancy of less than one week.<sup>104</sup> Because anencephaly can be accurately diagnosed during pregnancy, many anencephalic fetuses are aborted.<sup>105</sup> However, the mother of one such fetus chose to bring her to term and deliver her by Caesarean section so that her organs would be more useful for donation.<sup>106</sup>

Conception intended solely to provide donor fetal reproductive tissue differs materially from both examples. Both the Ayala case and the "Baby Theresa" case involved potentially life-saving donations without lethal intervention. Bone marrow donation is a potentially life-saving procedure that poses little risk to the donor child.<sup>107</sup> An anencephalic fetus is destined to die soon after birth,<sup>108</sup> and its mother's decision to bring the fetus to term merely prolongs its life. By comparison, fetal death is a prerequisite to reproductive tissue donation, and the donated tissue, while enhancing the quality of the recipient's life, does not preserve life.

This scant evidence suggests that the danger that availability of the Gosden technique will encourage women to have abortions is minimal. This is simply because when a woman exercises her freedom of choice, she is unlikely to prefer another woman's fertility to the life of her fetus. It is understandable that a woman may wish to abort in order to save the life of a loved one; yet, there is no evidence that any woman has made such a choice. Given this, it seems unlikely that she would do so just to solve an infertility

problem.

Fetal reproductive tissue transplants also raise ethical concerns about the possibility of abortion for pecuniary motives. Opponents worry that even if another woman's fertility is not motive enough, money might be. It is undeniable that healthy reproductive tissue commands a high price; with ovum collection from donors costing thousands of dollars,<sup>109</sup> it is likely infertile couples would be willing to pay comparable amounts for fetal ovaries.

The objection to abortion for pecuniary motive comes in two forms. Many, including those who generally oppose abortion on moral grounds, conclude that it cannot be ethical to terminate fetal life in exchange for money. Another, very different, camp objects to the commodification of body parts and human properties.<sup>110</sup>

It is probably unnecessary to resolve this ethical dilemma, because abortion for profit is already illegal. The National Organ Transplant Act<sup>111</sup> prohibits acquiring, receiving, or otherwise transferring any human organ for valuable consideration.<sup>112</sup> A 1988 amendment to the Act added fetal organs to the definition of human organs.<sup>113</sup> The National Institutes of Health Revitalization Act of 1993 also prohibits the sale of fetal material,<sup>114</sup> as does the 1987 revision of the Uniform Anatomical Gift Act,<sup>115</sup> which has been adopted by fifteen states.<sup>116</sup> Thus, the only lawful commercial opportunities in fetal tissue are for biotechnology companies intending to market fetal cell lines.<sup>117</sup> These cell lines are based on cloned tissue, and therefore require a small number of fetuses,<sup>118</sup> which could be easily obtained without payment.

Of course, this protection has limitations: among others, it reaches only as far as the jurisdiction of American law, whereas the technology spans the globe. Organs for transplant command high prices in some countries, and murder for the purpose of harvesting organs has been reported in China, Guatemala, and the Philippines.<sup>119</sup> It is not difficult to imagine that forced abortion for the purpose of harvesting fetal organs could be just as likely, and even harder to detect.

#### **IV. Property Rights and Control over Fetal Tissue**

Central to the issue of the use of fetal reproductive tissue in transplantation is the question of who has the right to consent to the donation. Of course, the fetus itself is incapable of giving consent to donate its organs.<sup>120</sup> The UAGA's implicit reliance on parental consent glosses over potentially serious questions. The adequacy of the parent's consent depends on our social and moral attitudes regarding the nature of the fetus and the parent's control over it.

The next section of this Article is devoted to the issue of consent, and frames the issue as one of property rights. Our legal system often couches the determination of legal status in property terms, and thus we must ask whether the fetus is property, and, if so, to whom it belongs. The answer to each of these questions has specific implications for the adequacy of consent for fetal donation.

##### **A. Fundamental Property Theory**

The *Restatement of Property* uses the concepts of right, privilege, power, and immunity to define property in terms of the legal relations between people.<sup>121</sup> American property law thus views property as a "bundle of rights" or collection of interests with respect to the thing owned—interests protected by the state.<sup>122</sup> These interests include exclusive possession or enjoyment, control over use, disposal, alienability, and devisability.<sup>123</sup> A property interest may contain any of these interests, but need not contain them all.<sup>124</sup> Fetal tissue is inalienable,<sup>125</sup> and, presumably, even the most ardent biological mother would have no interest in possessing it *ex utero*. Thus, the question of a property interest in it centers upon the right to control or determine the disposition of fetal material.

There are several ways to approach the construction of such an interest. First, the fetus might be considered a part of the gestational mother's body, with a right of control based on the mother's property right in her own body. Second, the fetus might be considered a child, with a right of custody and control associated with parental power. Third, the aborted fetus might be viewed as abandoned property and therefore subject to state ownership through escheat.

##### **B. Property Rights in One's Own Tissue**

The notion of a property interest in one's own body has long been associated with the philosophy of natural rights. This philosophy was articulated by John Locke in his *Second Treatise of Government*. Locke stated that each person has "property in his own person."<sup>126</sup> The construction of this right is more recently expressed as a right of identity; one owns one's body because the body is an extension of one's self.<sup>127</sup>

This issue first arose in a legal context in the seminal case of *Moore v. Regents of University of California*.<sup>128</sup> There, the California Supreme Court discussed the issue of ownership of bodily tissues, although it declined to decide whether one can own one's tissues.<sup>129</sup> The *Moore* court held that a medical patient whose excised spleen cells were used without his knowledge to create a marketable cell line did not have a cause of action for conversion.<sup>130</sup> Although the court did not "purport to hold that excised cells can never be property for any purpose whatsoever,"<sup>131</sup> it declined to enforce any property interest in Moore's cells, based on the public interest in the reproduction and distribution of cell tissue for research purposes.<sup>132</sup>

The application of *Moore* to situations involving fetal tissue is unclear. The California Court of Appeal decision in *Moore* explicitly declined "to resolve the complex issues relating to the human fetus."<sup>133</sup> The transition from ownership of one's own cells to ownership of a fetus is doctrinally and ethically problematic.

Some commentators have argued that *Roe v. Wade* and its progeny imply that a woman has a property interest in her fetus manifested by the right to dispose of the fetus by abortion.<sup>134</sup> However, this argument strains the scope of the already precarious *Roe* reasoning. While the right to control disposition is one of the important elements of the property right, *Roe* confers the right to terminate a pregnancy rather than the right to dispose of a fetus. Moreover, as set forth above, property rights generally encompass more than the right to dispose. Ultimately it appears that the *Roe* decision "says very little about the legal status and rights of the fetus."<sup>135</sup>

If the fetus is considered part of its mother's body, then any property rights inhering in it depend on a property right in one's own tissue. If we take this view, then we may deduce two corollaries. First, that property right belongs to the mother-and not the father. Second, we have presupposed that the fetus is not a separate being, distinct from its mother.

This was the approach implicit in the recent New York Supreme Court case *Kass v. Kass*.<sup>136</sup> During their marriage, Maureen and Steven Kass underwent IVF and an unsuccessful attempt to implant one of the resulting pre-embryos.<sup>137</sup> Following their subsequent divorce, the Kassses disagreed about the disposition of the five remaining pre-embryos. Maureen Kass wished them to be implanted in herself;<sup>138</sup> Steven Kass desired that they be donated for research.<sup>139</sup>

The *Kass* court awarded Maureen Kass the exclusive right to determine the fate of the pre-embryos.<sup>140</sup> The court stated, based on *Roe v. Wade* and its progeny, "[i]t cannot seriously be argued that a husband has a right to procreate or avoid procreation following an in vivo fertilization."<sup>141</sup> The court reasoned that the result should not change when conception takes place in "the public glare of a petri dish" rather than in the fallopian tube of the mother.<sup>142</sup> In doing so, the court implicitly concluded that a pre-embryo, however created and whatever its actual location, is a part of the mother's body.

This reasoning misconstrues the U.S. Supreme Court precedent on which it relies. Insofar as U.S. Supreme Court precedent speaks to the rights of the father, it balances his rights against the rights of the mother while presuming the mother is gestating the child.<sup>143</sup> The *Roe* holding does not deny the existence of a father's right to control the fetus; it merely prevents him from exercising that right where it would interfere with the bodily integrity of the mother.<sup>144</sup> Since the pre-embryos in *Kass* are located in a laboratory vial rather than a human uterus, there is no issue of bodily integrity involved. Because the fertilization occurred outside the mother's body, the parents' rights to decide the fate of the pre-embryos are brought into equipoise.

The *Kass* opinion also confuses the issue of property rights. Contrary to the court's assertion of "the legal dichotomy of person or property,"<sup>145</sup> personhood and property rights are not incompatible.<sup>146</sup> The combination of this error with the court's statement that "[e]quating zygotes with washing machines and jewelry for purposes of a marital distribution borders on the absurd"<sup>147</sup> gives the impression that the decision is inconsistent with a conception of pre-embryos as property. Actually, *Kass* is completely consistent with such a notion. By holding the pre-embryos subject to maternal control, the court has merely designated them maternal property rather than marital property. The mere status of the embryo as property says little about its nature, and everything about who possesses the right of control.<sup>148</sup>

### **C. Property Rights in Children**

If the fetus is considered a child, then property rights may inhere in its parents. The question of whether children are property of their parents is a difficult one,<sup>149</sup> but in abstract terms, children are often treated like the property of their parents. Parents exercise rights of control, transferability, and even alienability with respect to the custody of children. These rights are generally considered to inhere in both parents equally.<sup>150</sup>

This view is attractive in light of the recent attention to paternal rights.<sup>151</sup> The most lasting effect of the transplantation of fetal ova or

ovaries is not its immediate effect on fetal life, but its perpetuation of the genetic legacy of the fetus. This legacy is, unarguably, the provenance of both the mother and father, who contribute equally to the genetic makeup of the fetal donor. Rationally or not, humans feel a strong personal stake in whether and how their genes are passed on.<sup>152</sup> Even sperm and egg donors who have no part in conceiving, gestating, or raising a child sometimes care greatly about their genetic legacy.<sup>153</sup> The model of equal interests on the part of the mother and father is the only one that appropriately recognizes this connection.

#### **D. Custody**

Even if there is to be an equal interest in the mother and father, there are still two possibilities—ownership and custody. *Davis v. Davis*, an unreported 1989 decision of the Tennessee Court of Appeals, addressed the issue of control of human embryonic tissue.<sup>154</sup> While the decision was subsequently reversed by the Tennessee Supreme Court, *Davis* illustrates the doctrinal difference between ownership and custody, and the confusion between them that may result when reproductive material is at issue.

*Davis* was a dispute between husband and wife over the right to implant seven frozen embryos, obtained through IVF of the couple's germ cells.<sup>155</sup> Following the couple's divorce, Mrs. Davis wished the embryos to be implanted into her,<sup>156</sup> and Mr. Davis wished them to remain in cryogenic stasis until the parties could come to an agreement concerning their use.<sup>157</sup>

The *Davis* court explicitly found that "[h]uman embryos are not property."<sup>158</sup> Rather, the court found that the fertilized embryos were "unborn human beings" and thus the children of Mr. and Mrs. Davis.<sup>159</sup> The court based its decision entirely on the *parens patriae* doctrine and the best interests of the child.<sup>160</sup> Because the "practical storage life" of the embryos was two years,<sup>161</sup> the court reasoned that the embryos' best chance for survival was implantation and awarded custody to Mrs. Davis for that purpose.<sup>162</sup>

Here, the result follows necessarily from the premise. Because the parent's interest in the child is one of custody rather than ownership, it must be exercised in the child's best interest. This necessitated a ruling in favor of implantation of the frozen embryos. When applied to fetal reproductive tissue transplants, the custody model would preclude either parent from consenting to abortion and the subsequent donation of fetal tissue. Adoption of the custody model is tantamount to making the ethical judgment that this technology should not be used.

#### **E. Quasi-Property Rights in Dead Bodies**

Alternatively, we can approach the consent issue by taking the position that fetuses are not living tissue at all. If so, then an entirely different doctrine should apply—far closer to the pure property model.

The law of control and disposal rights in dead bodies is illustrated by *McCoy v. Georgia Baptist Hospital*.<sup>163</sup> In *McCoy*, the court considered whether a couple had a quasi-property interest in the body of their stillborn infant.<sup>164</sup> Although Georgia recognized a quasi-property interest in the dead body of a relative, the court stated that the plaintiffs had no such interest after they signed an agreement authorizing the hospital staff to "dispose of this infant in any manner they deem advisable."<sup>165</sup> Although the *McCoy* court did not clearly find that a stillborn child was a relative within the meaning of Georgia law, a parental quasi-property interest in the body of the stillborn child may be inferred from the decision—if the couple signed their rights away, they must have had the rights at some point. The court, perhaps intentionally, never reached the issue.

Currently, many states recognize the quasi-property right discussed in *McCoy*,<sup>166</sup> either under common law or under statute. The Uniform Anatomical Gift Act provides that the next-of-kin has a right to dispose of a body.<sup>167</sup> It should be noted that the right is quite limited. The next-of-kin does not have the right to sell the body,<sup>168</sup> and must dispose of it in a manner consistent with the public health.<sup>169</sup>

*McCoy* is distinguishable from the situation under discussion here because the stillborn infant in *McCoy* was a deceased but fully formed human being. Our culture plainly recognizes the difference between a fetus and an infant, whether born alive or stillborn. Most notably, society recognizes the difference through ritual: infants, even stillborn infants, are usually buried,<sup>170</sup> but most aborted fetuses are disposed of by incineration.<sup>171</sup> A bioethics professor commented, "[I]t is intuitively wrong to say that a two-week embryo is [much] like us."<sup>172</sup>

If we use this approach, then we have posited that the fetus is not a living being at all. But it should be noted that the fetus does not always experience death as soon as an abortion is performed.<sup>173</sup> Indeed, the advance of medical technology will probably insure that, in the future, no such assumption can be made. Thus, this approach may be based on an incorrect factual assumption—or at least an



assumption that will soon be obsolete.

## **F. Escheat: Property Rights in Abandoned Property**

A final alternative is to presume an aborted fetus to be abandoned property. In *Moore*, the court viewed such abandonment as implicit: "Moore clearly did not expect to retain possession of his cells following their removal . . . ." <sup>174</sup> This approach is implied by the Uniform Anatomical Gift Act, which provides that the next-of-kin may give consent for the use of the deceased's organs "[i]n the absence of any other action or contrary indication by that individual before death . . . ." <sup>175</sup> In addition, some states have "presumed consent laws," which allow body parts to be used when there is an appropriate recipient, and there is no known objection, either by the deceased or the next-of-kin, to its use. <sup>176</sup> Louisiana's "Human Embryo" law declares that unwanted embryos must be made available for "adoptive implantation." <sup>177</sup>

Presumed consent is loosely based on the doctrine of escheat. <sup>178</sup> Escheat is the "reversion of property to the state in consequence of a want of any competent individual to inherit." <sup>179</sup> At common law, it was a device by which real property reverted to the crown if the line of succession ended and there was no heir. <sup>180</sup>

Because escheat is a state action potentially adverse to private interest, it is subject to a Takings Clause analysis. <sup>181</sup> Several commentators have raised the objection that presumed consent laws violate the Takings Clause. <sup>182</sup> Three such challenges in state courts have failed because, in each case, the court held that the property interest did not rise to the level of constitutional significance. <sup>183</sup> Because property interests in the body of an adult relative do not merit constitutional protection in the face of a compelling interest in providing medically needed tissue, it is unlikely that a court would find a protectable property interest in a fetus based on its usefulness in restoring fertility.

Such an approach, again, brings us to an entirely new result. If an aborted fetus is escheatable abandoned property, it is the property of the state. If so, then consent for the use of fetal tissue adheres in the state, not the parent or parents. Depending on its assessment of the social value of fetal transplants, the state might prohibit, or, at the other extreme, mandate, donation.

## **G. A New Category**

As shown above, slight changes in the underlying philosophical or legal model lead to wide variation in the appropriate rule of consent. Because these models, all of which have a secure place in our legal philosophy, exhibit so little internal consistency, it is tempting to simply create a new category for fetal reproductive tissue. When it reviewed *Davis v. Davis* on appeal, <sup>184</sup> the Tennessee Supreme Court made such a finding regarding the status of cryogenically preserved human pre-embryos. <sup>185</sup> "We conclude that pre-embryos are not, strictly speaking, either 'persons' or 'property,' but occupy an interim category that entitles them to special respect because of their potential for human life." <sup>186</sup> Of course, the value of fetal reproductive tissue stems from its reproductive potential rather than its "potential for human life."

Each of the other models has its conceptual difficulties. To call the fetus mere property, escheatable to the state, denies its nature as a living organism. To impose a duty of custody on parents is an unnecessarily inflexible application of a doctrine that was developed in a wholly different context, and denies the important difference between fetuses and children. To call the fetus merely a part of its mother's body denies its potential for transmitting the genetic legacy of both parents. For these reasons, I conclude that the joint property model-giving equal and undivided right of consent to both parents-is the most appropriate for this technology.

In reality, it is quite possible that these rights will be determined not by operation of law, but by private agreement. If fetal tissue becomes a valuable commodity in light of its increased usefulness in transplantation, then hospitals will likely begin to contract with potential patients for the right to use it. Hospitals may sidestep the issue of ownership by contracting with all possible parties-mother, father, and state. This would not only eliminate all those with standing to bring a suit, but cover all those likely to claim the right to give consent.

In practice, fetal tissue for research is usually obtained by contract with the biological mother. The National Disease Research Interchange, a non-profit organization funded by the NIH, has obtained fetal tissue through volunteers who sought "the informed consent of women who had already given their consent for abortions." <sup>187</sup> However, these donations were made before fetal germ cell transplants were announced. The decision to allow the use of genetic material is qualitatively different. The same women who consented to therapeutic use of fetal tissue might have balked at authorizing the use of genetic material rather than brain, bone or skin.

## **V. Conclusion**

The ethical objections to transplantation of fetal tissue have been widely discussed, largely as a result of the federal moratorium on research funding. After the ban was lifted, and even before, fetal tissue research proceeded with promising results. However, the transplantation of fetal germ cells raises ethical issues that go beyond those of transplanting fetal cells for treatment of Parkinson's disease or diabetes.

There are various ethical objections to using fetal genetic tissue. In addition, there are biological concerns, and an important question as to whether great resources should be devoted to such procedures. Infertility, unlike Parkinson's and diabetes, is not a life-threatening condition.

Serious questions remain as to who should have the power to give informed consent for use of fetal reproductive tissue. Existing common law supports a variety of property interests that may include the power to control and dispose of fetal tissue. Unfortunately, subtle differences in doctrine can lead to wide variations in result. This power could inhere in the mother, the father, the state-or no one. But with increased social emphasis on the genetic legacy of the parent, a joint parental interest in the right to give consent may be most appropriate.

Gosden's ovarian transplant procedure, if it becomes feasible for humans, promises to revolutionize treatment of infertility and gonadal dysgenesis. However, the success of the new procedure will depend on the availability of fetal reproductive tissue. This may be a bigger barrier to the technology than science or ethics. While the technology may add one more factor to the already complex choice to terminate a pregnancy, it will probably not have a significant impact on behavior. Women who choose to terminate a pregnancy have declined motherhood. It seems unlikely that they will make a further choice to donate the fetus-a choice resulting in progeny-to solve an infertility problem that is not life-threatening.

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1. Eugene Robinson, *Furor Over Fertility Options: Should Eggs from Fetuses or Cadavers Be Used to Help Women Become Pregnant?*, WASH. POST, Jan. 11, 1994, at 6.
2. Roger C. Gosden, *Transplantation of Fetal Germ Cells*, 9 J. ASSISTED REPRODUCTION & GENETICS 118, 122 (1992).
3. Gina Kolata, *Reproductive Revolution is Jolting Old Views*, N.Y. TIMES, Jan. 11, 1994, at A1.
4. This use was suggested in Ignacio Madrazo et al., *Open Microsurgical Autograft of Adrenal Medulla to the Right Caudate Nucleus in Two Patients with Intractable Parkinson's Disease*, 316 NEW ENG. J. MED. 831 (1987). For a recent analysis, see C.G. Goetz, *Fetal-Tissue Transplantation for Parkinson's Disease*, 329 NEW ENG. J. MED. 1498 (1993).
5. Marlene Cimon & Thomas Maugh, *After 5-Year Wait, Scientists are Set to Resume Research on Fetal Cells*, L.A. TIMES, Jan. 26, 1993, at A5.
6. Gosden, *supra* note 2, at 122.
7. Infertility is a temporary condition, usually due to age, but often due to unknown causes. Sterility is a permanent condition, frequently due to known causes such as menopause or removal of the ovaries. See Lawrence J. Kaplan & Carolyn M. Kaplan, *Natural Reproduction and Reproduction-Aiding Techniques*, in THE ETHICS OF REPRODUCTIVE TECHNOLOGY 30 n.7 (Kenneth D. Alpern ed., 1992) (difference between sterility and infertility); Michael Freeman, *The Unscrambling of Egg Donation*, in LAW REFORM AND HUMAN REPRODUCTION 273 (Sheila McLean ed., 1992) (causes of sterility). In this Article I will refer to infertility and sterility collectively as "infertility."

8. See Ellen Hopkins, *Tales from the Baby Factory*, N.Y. TIMES, Mar. 15, 1992, at 40.
9. BARBARA KATZ ROTHMAN, ENCYCLOPEDIA OF CHILDBEARING 197 (1993) (entry under "Infertility"). The least invasive is listed as using the "correct" method of sexual intercourse. *Id.* Unfortunately, the author does not elaborate on what this might be.
10. *Id.*
11. *Id.*
12. The first IVF baby, Louise Brown, was born in 1978 under the care of British doctors Steptoe and Edwards. Kaplan & Kaplan, *supra* note 7, at 25.
13. *Id.*
14. Hopkins, *supra* note 8, at 40.
15. Kaplan & Kaplan, *supra* note 7, at 24, 26.
16. Freeman, *supra* note 7, at 273.
17. While only 10% of all couples enrolled in IVF programs actually bring home babies, couples who are "good candidates" for IVF may have a one in three chance of successful pregnancy. Ellen Hopkins, *Behind the IVF Hype: A Shocking Failure Rate*, MED. ECON., June 1, 1992, at 152. The reported success rates of individual clinics are, of course, instrumental to their financial health, and may therefore be over-reported. This concern prompted Representative Ron Wyden of Oregon to sponsor a bill mandating uniform reporting of success rates. Melinda Beck et al., *How Far Should We Push Mother Nature?*, NEWSWEEK, Jan. 17, 1994, at 54, 55.
18. Robinson, *supra* note 1, at 6.
19. ROTHMAN, *supra* note 9, at 120 (entry under "Egg Retrieval"). Some women have died from the laparoscopy procedure, whose danger stems primarily from the need for general anesthesia. *Id.* A new non-surgical ultrasound procedure, which is replacing laparoscopy, is less dangerous because it only requires local anesthesia. Kaplan & Kaplan, *supra* note 7, at 25. However, the ultrasound procedure still requires hospitalization and hormonal injection. *Id.*
20. See Hopkins, *supra* note 8, at 40. In comparison, the fee for the average sperm donation is about \$50. Sam Howe Verhovek, *New York, in Move to Bar AIDS, Puts New Limits on Sperm Banks*, N.Y. TIMES, Oct. 4, 1989, at A1.
21. Peter J. Neumann et al., *The Cost of a Successful Delivery with In Vitro Fertilization*, 331 NEW ENG. J. MED. 239, 239 (1994). These figures are somewhat misleading on their face because they are adjusted in a variety of ways. They are discounted by the success rate and stratified by number of cycles. A complete explanation is provided in the "Methods" section of the article. *Id.* at 241-42.
22. Gosden, *supra* note 2, at 118-19.
23. *Id.* (Transplanted sheep ovaries, while remaining smaller in size, acquired adult morphology within a few weeks).
24. *Id.*
25. See Robinson, *supra* note 1, at 6.
26. *Id.*
27. DICTIONARY OF OBSTETRICS AND GYNECOLOGY 175 (1988) (entry under "Ovarium").

28. *See id.* (entries under "Dysgenesis, gonadal" and "Dysgenesis, pure gonadal").
29. Gosden, *supra* note 2, at 118.
30. Harinder Grewal, *The Good and Bad Cholesterol*, 14 TOTAL HEALTH 44 (1992); *Most Women "Medical Rebels" About Taking Hormones*, VANCOUVER SUN, Sept. 20, 1994, at B2.
31. Gosden, *supra* note 2, at 118.
32. *Id.* at 118-19.
33. *Id.* at 118.
34. *Id.*
35. *Id.*
36. T. G. Baker, *A Quantitative and Cytological Study of Germ Cells in Human Ovaries*, 158 PROC. ROYAL SOC'Y 417 (1963). The number of oocytes increases rapidly from 600 thousand at two months of gestation to 6 million to 7 million at five months. *Id.* It should be noted, in light of the discussion of *Roe v. Wade* in Part III.A, *infra*, that two months is long before fetal viability and five months is near the current point of viability. *See* Dena Kleiman, *When Abortion Becomes Birth: A Dilemma of Medical Ethics Shaken by New Advances*, N.Y. TIMES, Feb. 15, 1984, at B1.
37. Baker, *supra* note 36, at 417.
38. Gosden, *supra* note 2, at 118.
39. *Id.*
40. *Id.* at 119.
41. *Id.*
42. *Id.*
43. Animal ovarian transplants, routine for many years, are not prone to rejection because the donors and recipients are immunologically identical or syngeneic. *Id.*
44. W.A. Baumgartner et al., *Heart and Lung Transplantation: Program, Development, Organization, and Initiation*, 4 J. HEART TRANSPLANTATION 197 (1985).
45. D.J. Norman, *An Overview of the Use of Monoclonal Antibody OKT3 in Renal Transplantation*, 20 TRANSPLANT PROC. 1248 (1988).
46. *See* T.J. Gill & H.W. Kunz, *The Role of Regional Differences in the Major Histocompatibility Complex in the Production During Pregnancy of a Serum Factor Inhibiting Macrophage Migration*, 7 J. IMMUNOGENETICS 157 (1980); Warren Leary, *U.S. Panel Backs Research Use of Fetal Tissue From Abortions*, N.Y. TIMES, Sept. 17, 1988, at 1.
47. Gosden, *supra* note 2, at 122.
48. *Id.*
49. *See* Rex Dalton, *Born with a Broken Heart; Detectives Search for Gene That Causes Abnormalities in Family's Boys*, SAN DIEGO

UNION-TRIBUNE, Dec. 1, 1993, at E1; Jim Morris, *Baby Tragedy has No Bounds; Woodlands, Like the Valley, Sees Infants Missing Brains*, HOUS. CHRONICLE, Aug. 2, 1992, at 1.

50. See Robert Steinbrook, *Healing Genes: Medicine's Attack of Genetic Diseases*, L.A. TIMES, Nov. 1, 1993, at A1 (discussing cystic fibrosis).

51. See George J. Annas, *Genetics and the Law: Mapping the Human Genome and the Meaning of Monster Mythology*, 39 EMORY L. J. 629, 645-46 (1990); see generally DANIEL KEVELS, IN THE NAME OF EUGENICS: GENETICS AND THE USES OF HUMAN HEREDITY (1985).

52. Magie Verrall, *U.K. Bans Use of Fetal Eggs in IVF*, 370 NATURE 241 (1994). In the current state of the art, oocytes will not mature in vitro. Therefore, oocytes must be harvested from adult ovaries upon maturation. Fetal eggs are therefore not yet viable for IVF. Sir Colin Campbell, chairman of the Human Fertilization and Embryology Authority, described the technology as "still 10-20 years away from being feasible in humans." *Id.* The U.K. ban essentially prohibits any use of fetal tissue in infertility treatment. *Id.* Roger Gosden called the move "misinformed." David Dickson, *U.K. Parliament Passes Surprise Ban on Fetal Embryos in IVF*, 368 NATURE 676 (1994).

53. *An Inconceivable Breakthrough? Science Poised to Create Offspring from Aborted Fetus*, CHI. TRIB. Jan. 6, 1994, at 14.

54. See Beck, *supra* note 17, at 55 ("There are no federal rules or guidelines governing the estimated 300 assisted-fertility clinics operating nationwide . . .").

55. Pub. L. No. 102-493 (codified at 42 U.S.C.A. §§ 201, 263(a)(1-7) (Supp. 1994)).

56. *Id.*

57. 45 C.F.R. § 46.210 (1992) ("Activities involving the dead fetus, macerated fetal material, or cells, tissue, or organs excised from a dead fetus shall be conducted only in accordance with any applicable State or local laws regarding such activities").

58. Gina Kolata, *Federal Agency Bars Implanting of Fetal Tissue*, N.Y. TIMES, Apr. 16, 1988, at A1.

59. National Institutes of Health, Human Fetal Tissue Transplantation Research, Report of the Advisory Committee to the Director 7 (Dec. 14, 1988); Leary, *supra* note 46, at 1.

60. *Fetal Tissue Study Ban Retained*, L.A. TIMES, Oct. 16, 1989, at P2; Emanuel Thorne & Julia Paradise, *Politicians in the Lab . . . Life, Death and Debate: The Ban on Fetal Tissue Research*, WASH. POST, June 23, 1991, at B3.

61. Thorne & Paradise, *supra* note 60, at B3.

62. Sharon Begley et al., *Cures from the Womb*, NEWSWEEK, Feb. 22, 1993, at 48.

63. Susan Brink, *Top 10 Health Stories to Watch*, U.S. NEWS & WORLD REP., May 10, 1993, at 81.

64. Health and the Environment Subcommittee of the House Energy and Commerce Committee, §§ 111-13, Feb. 3, 1993.

65. Pub. L. No. 103-324, § 112, 107 Stat. 133 (codified at 42 U.S.C. § 289g-2 (Supp. 1994)).

66. Bill Tracking Report, *Research on Human Fetal Tissue Amendments Act of 1993*, Mar. 2, 1993.

67. Warren Leary, *Clinton Rules Out Federal Money for Research on Human Embryos Created for That Purpose*, N.Y. TIMES, Dec. 3, 1994, at 8.

68. *Id.*

69. *Id.*

70. *Id.*

71. UNIF. ANATOMICAL GIFT ACT (1987) §§ 1(2), 3(a)(3), 8A U.L.A. 30, 40 (1993) [hereinafter UAGA]; UNIF. ANATOMICAL GIFT ACT (1968) §§ 1(b), 2(3), 8A U.L.A. 94, 99 (1993). The 1987 revision of the Act has been adopted in 15 states. The 1968 Act is in force in the other 35 states and in the District of Columbia. *Table of Jurisdictions Wherein Act Has Been Adopted*, 8A U.L.A. 19, 63 (1993).

72. UAGA (1987) at § 1(2).

73. *Id.* at § 3(a).

74. *Id.*

75. ARK. STAT. ANN. § 82-436 (Supp. 1985).

76. For a list, see Note, *Fetal Tissue Transplants: A Proposal to Amend the Uniform Anatomical Gift Act*, 1989 U. ILL. L. REV. 1095, 1108 n.132.

77. For a list of the 8 states and the relevant statutes, see *id.* at 1109 n.138.

78. 462 U.S. 416 (1983).

79. *Id.* at 424 n.7 (citing AKRON, OHIO, ORDINANCES § 1870.16 (1978)).

80. See *Margaret S. v. Edwards*, 488 F. Supp. 181 (E.D. La. 1980). The statute was amended in response to this decision, but fared no better after its amendment. See Nicolas P. Terry, *Alas! Poor Yorick! I Knew Him Ex Utero: The Regulation of Embryo and Fetal Experimentation and Disposal in England and the United States*, 39 VAND. L. REV. 419, 427 (1986).

81. 410 U.S. 113 (1973).

82. *Carey v. Population Services International* protected the "decision whether or not to beget or bear a child." 431 U.S. 678, 685 (1977).

83. *Roe*, 410 U.S. at 163.

84. *Id.* at 154. See also, Note, *Fetal Tissue Transplants: Restricting Recipient Designation*, 39 HASTINGS L.J. 1079, 1096 (1988).

85. For a discussion of the changeability of abortion law, see Anita L. Allen, *Autonomy's Magic Wand*, 72 B.U. L. Rev. 683 (1992).

86. See Note, *The Supreme Court's Abortion Jurisprudence*, 65 NOTRE DAME L. REV. 731, 738 (1990).

87. *Roe*, 410 U.S. at 163.

88. 112 S. Ct. 2791, 2811-12 (1992) ("Whenever it may occur, the attainment of viability may continue to serve as the critical fact, just as it has done since *Roe* was decided. . . .").

89. *City of Akron*, 462 U.S. at 457-58 (O'Connor, J., dissenting).

90. See *Roe*, 410 U.S. at 163-164 ("If the State is interested in protecting fetal life after viability, it may go so far as to proscribe abortion during that period. . . .").

91. Mark Siegler, *USA: Politics of Fetal Tissue Research*, 339 LANCET 1404 (1992).
92. David Fletcher, *Just How Far Should Baby Doctors Go?*, DAILY TELEGRAPH, Jan. 8, 1994, at 1; Charles Krauthammer, *Hostage to Abortion Politics*, WASH. POST, May 22, 1994, at A25.
93. James Kilpatrick, *Fetal Research Raises Tough Questions*, ST. PETERSBURG TIMES, Sept. 23, 1988, at 21A.
94. Comment, *Conceiving to Abort and Donate Fetal Tissue*, 36 UCLA L. REV. 1167 (1989).
95. Begley, *supra* note 62, at 48.
96. Tamar Lewin, *Abortions in U.S. Hit 13-Year Low, A Study Reports*, N.Y. TIMES, June 16, 1994, at A1.
97. Marlene Cimon, *Fetal Tissue Research Stirs Debate*, L.A. TIMES, Sept. 26, 1988, at Metro p.3 (to help husband who had Parkinson's disease); Christine Gorman, *A Balancing Act of Life and Death*, TIME, Feb. 1, 1988, at 49 (to help father who had Parkinson's disease); Emanuel Thorne, *Trade in Human Tissue Need Regulation*, WALL ST. J., Aug. 19, 1987, at A16 (to help father who needed kidney tissue).
98. *Fetal Tissue Transplants: Restricting Recipient Designation*, *supra* note 84, at 1080.
99. Vivian Dempsey, *Clash of Ethics: Use of Fetal Remains in Medical Treatment Provokes a Furor over Ownership of Tissue*, RECORDER, Sept. 8, 1987, at 19; Rorie Sherman, *The Selling of Body Parts*, NAT'L. L.J., Dec. 7, 1987, at 1; Beverly Burlingame, *Commercialization in Fetal-Tissue Transplantation: Steering Medical Progress to Ethical Cures*, 68 TEX. L. REV. 213, 236 (1989).
100. *Baby Is Conceived to Save Daughter*, N.Y. TIMES, Feb. 17, 1990, at A1.
101. *Id.*
102. *Id.* While this is an admirable standard, if the only children born were those so ethically conceived, humans might be an endangered species. It should also be noted that this is an objection to the conception itself, not to the decision to abort. It is not likely to be shared by those who oppose abortion—a group that voices no opinion on the decision to conceive.
103. Charles N. Rock, *The Living Dead: Anencephaly and Organ Donation*, 7 N.Y.L. SCH. J. HUM. RTS. 243 (1989).
104. *Id.*
105. Charles Krauthammer, *The Case of Baby Theresa*, WASH. POST, Apr. 3, 1992, at A21.
106. Julie Koenig, *The Anencephalic Baby Theresa*, 17 NOVA L. REV. 445 (1992); Krauthammer, *supra* note 105, at A21.
107. Denise Hamilton, *Woman Is Having Baby to Save Her Ailing Daughter*, L.A. TIMES, Feb. 16, 1990, at A1.
108. Krauthammer, *supra* note 105, at A21.
109. *See* note 20 and accompanying text.
110. *See* Margaret Jane Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849 (1987); Stephen J. Schnably, *Property and Pragmatism: A Critique of Radin's Theory of Property and Personhood*, 45 STAN. L. REV. 347 (1993).
111. Pub. L. No. 98-507, 98 Stat. 2339 (1984) (codified at 42 U.S.C. §§ 273-274(e) (1988)).
112. 42 U.S.C. § 274(e).

113. Pub. L. No 100-607, tit. IV, § 407, 102 Stat. 3116 (1988) (codified at 42 U.S.C. § 274e(c)(1) (1988)).
114. Pub. L. No. 103-43, § 112, 107 Stat. 133 (codified at 42 U.S.C. § 289g-2 (Supp. 1994)).
115. UNIF. ANATOMICAL GIFT ACT (1987) § 10, 8A U.L.A. 58 (1993).
116. *Table of Jurisdictions Wherein Act Has Been Adopted*, 8A U.L.A. 19 (1993).
117. *See, e.g.*, Thomas Maugh, *Use of Fetal Tissue Stirs Hot Debate*, L.A. TIMES, Apr. 16, 1988, at 1.
118. *Id.*
119. Maud Beelman, *Body Parts Needed for Transplants; Trade in Human Organs Stirs Global Attention*, L.A. TIMES, July 16, 1989, at 6; Victor Perera, *Behind the Kidnapping of Children for Their Organs*, L.A. TIMES, May 1, 1994, at M1; *Grim Commerce in China*, N.Y. TIMES, Aug. 30, 1994, at A20. It should be noted, however, that reports of "baby theft" in Guatemala are now thought to be a hoax. Perera, *supra*, at M1.
120. Gina Kolata, *Fetal Ovary Transplant is Envisioned*, N.Y. TIMES, Jan. 6, 1994, at A16 (quoting Arthur Caplan).
121. RESTATEMENT OF PROPERTY, ch. 1 Introductory Note (1936). The black letter of American property law is founded primarily upon the writings of Wesley Hohfeld. *See* Wesley N. Hohfeld, *Fundamental Legal Conceptions As Applied in Judicial Reasoning*, 26 YALE L.J. 710 (1917); Wesley N. Hohfeld, *Some Fundamental Legal Conceptions As Applied to Judicial Reasoning*, 23 YALE L.J. 16 (1913). The American Law Institute adopted Hohfeld's conception of property when it drafted the *Restatement of Property*. RESTATEMENT OF PROPERTY §§ 1-4 (1936).
122. 63A AM. JUR. 2D *Property* §§ 1-3 (1984).
123. LAWRENCE C. BECKER, PROPERTY RIGHTS 18 (1980); BLACK'S LAW DICTIONARY 1216 (6th ed. 1990).
124. BECKER, *supra* note 123, at 18.
125. *See* notes 111-118 and accompanying text.
126. JOHN LOCKE, TREATISE OF CIVIL GOVERNMENT AND A LETTER CONCERNING TOLERATION 19 at ¶ 27 (Charles L. Sherman ed., 1965). Locke's formulation, however, is derived from a labor theory of value, which does not ultimately support a property right in one's tissue; one does not acquire one's tissue through one's own labor. Note, *Genetic Information and Property Theory*, 87 NW. U. L. REV. 1037, 1070-72 (1993).
127. ALAN RYAN, PROPERTY 61 (1987) (citing Robert Nozick).
128. 271 Cal. Rptr. 146 (1990).
129. *Id.*
130. *Id.* at 147, 155, 164.
131. *Id.* at 160.
132. *Id.* at 162-63.
133. Moore v. Regents of Univ. of Calif., 249 Cal. Rptr. 494, 506 n.8 (1988).
134. *See, e.g.*, Nancy E. Field, *Evolving Conceptualizations of Property: A Proposal to De-Commercialize the Value of Fetal Tissue*,



135. Harold P. Green, *The Fetus and the Law*, in GENETICS AND THE LAW 19, 20 (National Symposium on Genetics and the Law ed., 1976).

136. *Kass v. Kass*, No. 19658/93 (N.Y. Sup. Ct., Nassau Cty., filed Jan. 18, 1995). An appeal is expected. *Judge Rules Woman Who Provides Eggs Has Right to Decide Embryos' Fate*, N.Y. TIMES, Jan. 20, 1995, at B5. The facts of *Kass* are similar to those of *Davis v. Davis*, discussed *infra* at notes 154-162 and accompanying text. In its opinion, the *Kass* court rejected the rationale of *Davis* and departed diametrically from its result.

137. *Kass*, slip op. at 1. A zygote is the cell formed by fertilization of an ovum. The term "pre-embryo" refers to a zygote less than two weeks after conception. *Id.*

138. *Id.*

139. *Id.* at 2.

140. *Id.* at 4.

141. *Id.* at 3.

142. *Id.* at 4.

143. *See Planned Parenthood of Missouri v. Danforth*, 428 U.S. 52, 71 (1976) ("The obvious fact is that when the wife and husband disagree on this [abortion] decision, the view of only one of the two marriage partners can prevail. Inasmuch as it is the woman who physically bears the child and who is the more directly and immediately affected by the pregnancy, as between the two, the balance weighs in her favor").

144. *See John A. Robertson, In the Beginning: The Legal Status of Early Embryos*, 76 VA. L. REV. 437, 456 n.50 (1990).

145. *Kass*, slip op. at 2.

146. For instance, parental control of children is one of the few express exceptions to the Thirteenth Amendment proscription against involuntary servitude. *Robertson v. Baldwin*, 165 U.S. 275, 282 (1897); *Clyatt v. United States*, 197 U.S. 207, 215-16 (1905).

147. *Kass*, slip op. at 2.

148. Robertson, *supra* note 137, at 454-55.

149. Heather J. Meeker, *Issac's Revenge: Children as Property in Western Law* (1994) (unpublished manuscript, on file with author). *See also* Barbara Bennett Woodhouse, *Who Owns the Child?: Meyer and Pierce and the Child as Property*, 33 WM. & MARY L. REV. 995 (1992); Francis Barry McCarthy, *Parents, Children and the Courts: The Confused Constitutional Status and Meaning of Parental Rights*, 22 GA. L. REV. 975 (1988).

150. McCarthy, *supra* note 149, at 975 n.3.

151. Janet L. Dolgin, *Just a Gene: Judicial Assumptions About Parenthood*, 40 UCLA L. REV. 637 (1993); John Hill, *What Does it Mean to be a Parent? The Claims of Biology As the Basis for Parental Rights*, 66 N.Y.U. L. REV. 353 (1991); Note, *Michael H. v. Gerald D.: The Presumption of Paternity*, 39 CATH. U. L. REV. 831 (1990).

152. *See Paul Dean, Two Men and a Baby; Birth Fathers, Adoption's Once-Silent Partners, Seek Role in Their Children's Lives*, L.A. TIMES, Oct. 29, 1989, at E1; Herman Wong, *Family Search; Adult Adoptees Seek Roots*, L.A. TIMES, May 18, 1990, at N1; JOHN H. BECKSTROM, *SOCIOBIOLOGY AND THE LAW* 11 (1985).

153. Davis v. Davis, 842 S.W.2d 588, 603 n.26 (Tenn. 1992).
154. 1989 WL 140495 (Tenn. Cir. 1989), *rev'd*, 842 S.W.2d 588 (Tenn. 1992).
155. *Id.* at \*3.
156. *Id.* at \*11.
157. *Id.* at \*19.
158. *Id.* at \*1.
159. *Id.* at \*1, \*9. It was this holding that the Tennessee Supreme Court found to be error; rather, it found that the human embryos at issue in the case "[could] not be considered persons under Tennessee law." Davis v. Davis, 842 S.W.2d 588, 594 (Tenn. 1992).
160. Davis, 1989 WL 140495 at \*10-\*11.
161. *Id.* at \*3.
162. *Id.* at \*11.
163. 306 S.E.2d 746, 748 (Ga. Ct. App. 1983).
164. *Id.* at 747-48.
165. *Id.*
166. *See, e.g.*, Cohen v. Groman Mortuary, 41 Cal. Rptr. 481, 483-84 (Cal. Ct. App. 1964); Przybyszewski v. Metropolitan Dade County, 363 So. 2d 388 (Fla. Dist. Ct. App. 1978); Spiegel v. Evergreen Cemetery Co., 186 A. 585, 586 (N.J. 1936); In re Johnson, 612 P.2d 1302, 1305 (N.M. 1980); Nichols v. Central Vt. Ry. Co., 109 A. 905, 906 (Vt. 1919); Note, *Toward the Right of Commerciality: Recognizing Property Rights in the Commercial Value of Human Tissue*, 34 UCLA L. REV. 207, 225-27 (1986).
167. UNIF. ANATOMICAL GIFT ACT (1968) § 7(a), 8A U.L.A. 124 (1993). The corresponding section of the 1987 revision of the Act merely states that custody "vests in the person under obligation to dispose of the body." UNIF. ANATOMICAL GIFT ACT (1987) § 8 (a), 8A U.L.A. 56 (1993).
168. Dougherty v. Mercantile-Safe Deposit & Trust Co., 387 A.2d 244, 246 (Md. 1978).
169. Georgia Lions Eye Bank v. Lavant, 335 S.E.2d 127, 128-29 (Ga. 1985).
170. The facts of *McCoy* included an inquiry from the hospital whether to release the body of the stillborn infant to the funeral home for burial; this eventually took place. *McCoy*, 306 S.E.2d at 747-49.
171. Terry, *supra* note 80, at 427 n.40. Not surprisingly, one of the practices of anti-abortion activists is to give fetal remains a burial ceremony. But oddly, the same activists have sought to escape culpability for theft of the remains by calling them "abandoned property." *See* Respondent's Brief at A2, National Organization for Women v. Scheidler, 114 S. Ct. 798 (1994) (No. 92-780). This concept of abandonment is wholly inconsistent with the notion of the fetus as a person. *See* the discussion of escheat, *infra*, at Part IV. F.
172. Laurie Garrett, *Abortion in America*, NEWSDAY, Apr. 24, 1989, at 7.
173. *See* TENN. CODE ANN. § 39-15-207 (1994) (providing for state custody of a fetus born alive in the course of a voluntary abortion).

174. Moore v. Regents of Univ. of Cal., 271 Cal. Rptr. 146, 155 (1990).

175. UNIF. ANATOMICAL GIFT ACT (1968) § 2(b), 8A U.L.A. (1993). *See also*, UNIF. ANATOMICAL GIFT ACT (1987) § 3(a), 8A U.L.A. 40 (1993).

176. For a list of the state statutes, see Note, *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, 537 n.35 (1990) [hereinafter *She's Got Bette Davis[s] Eyes*].

177. LA REV. STAT. ANN. § 130 (West 1991).

178. *See* Gregory S. Crespi, *Overcoming the Legal Obstacles to the Creation of Futures Market in Bodily Organs*, 55 OHIO ST. L.J. 1, 53 (1994).

179. BLACK'S LAW DICTIONARY 488 (5th ed. 1979).

180. *See* Note, *Virginia's Acquisition of Unclaimed and Abandoned Personal Property*, 27 WM. & MARY L. REV. 409, 409 (1986).

181. Standard Oil v. New Jersey, 347 U.S. 428 (1951).

182. *She's Got Bette Davis[s] Eyes*, *supra* note 176, at 570-74 (concluding that nonconsensual organ donation violates the Takings Clause).

183. State v. Powell, 497 So. 2d 1188, 1193 (Fla. 1986), *cert. denied*, 481 U.S. 1059 (1987); Georgia Lions Eye Bank v. Lavant, 335 S. E.2d 127, 128 (Ga. 1985); Tillman v. Detroit Receiving Hosp., 360 N.W.2d 275, 277 (Mich. Ct. App. 1984).

184. 842 S.W.2d 588 (Tenn. 1992).

185. *Id.* at 596. The court declined to make its holding based on the best interests of the pre-embryos, thus affirming the Court of Appeals' unpublished reversal of the trial court's holding. *Id.* at 604.

186. *Id.* at 597.

187. Burlingame, *supra* note 99, at 222. In addition, there are non-profit tissue banks that provide researchers with various types of fetal tissue. *Id.* at 221-22.