

## EMBRYO BANKING AS A NOVEL OPTION FOR THE INFERTILE? LAW, POLICY, AND A PROPOSED MODEL ACT

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## I. INTRODUCTION

“As science races ahead, it leaves in its trail mind-numbing ethical and legal questions.”<sup>1</sup> These words, spoken by Chief Justice Kaye on the Court of Appeals of New York ten years ago, still ring true today.<sup>2</sup> Another of these difficult moral and legal questions surfaced in 2006 when the Abraham Center of Life (“Abraham Center”) began operations in San Antonio, Texas.<sup>3</sup> In June 2006, the Abraham Center announced itself as “North America’s First Human Embryo Bank.”<sup>4</sup> This paper explores the controversy surrounding embryo banking within the context of other assisted reproductive technologies.<sup>5</sup>

<sup>1</sup> *Kass v. Kass*, 91 N.Y.2d 554, 562 (1998) (discussing the ethical and legal concerns raised by determining whether the husband or the wife could claim property rights over embryos created through in vitro fertilization during divorce proceedings).

<sup>2</sup> *Id.*

<sup>3</sup> Abraham Center of Life, <http://www.theabrahamcenteroflife.com/index4.html> (last visited Mar. 12, 2007) (on file with author).

<sup>4</sup> See Jennalee Ryan, *Letter to our Readers from the Director of the Abraham Center of Life re: NORTH AMERICA’S FIRST HUMAN EMBRYO BANK*, June 25, 2006, <http://www.theabrahamcenteroflife.com/announcement.pdf> (last visited Mar. 12, 2007) [hereinafter *Letter to our Readers*] (on file with author).

<sup>5</sup> To clarify, the term “embryo” for the purposes of this paper refers to the early embryo at the eight-cell stage. Embryos reach the eight-cell stage approximately three days after fertilization, and it is at this stage that embryos are typically placed in cryopreservation if they are not implanted immediately into a recipient. See *STEDMAN’S MEDICAL DICTIONARY* 96140 (27th ed. 2000) (defining cryopreservation as “[m]aintenance of the viability of excised tissues or organs at extremely low temperatures.”); *STEDMAN’S MEDICAL DICTIONARY* 128030 (27th ed. 2000) (defining a human embryo as “the developing organism from conception until approximately the end of the second month . . .”). See also Wikipedia, *Cryopreservation*, <http://en.wikipedia.org/wiki/cryopreservation> (last visited Feb. 24,

The paper begins in Part II by defining the current state of embryo banking while recognizing that this technology is in its infancy. Part II concludes with a projection of a typical embryo bank ten to twenty years into the future.

Part III discusses the current legal status of early embryos as determined by recent case law as well as arguments both for and against the current classification.

Part IV looks at potential sources for regulation of an embryo market, including state, federal, industry, and international regulatory possibilities.

Part V evaluates the advantages and disadvantages of an embryo market and ultimately concludes that an embryo market can be justified as a logical extension of the existing industry of assisted reproductive technologies ("ART"). Having determined that an embryo market offers several advantages but could lead to abuse if unregulated, Part VI proposes a Model Act for state-by-state incorporation.

The paper concludes in Part VII that although embryo banking may at first glance appear to be a drastic shift in reproduction, in reality it is merely a novel combination of already existing ART. As long as the proposed guidelines are followed, the regulation of embryo banks should not require significantly more legislation than has already been created for analogous reproductive technologies and would expand the options available for those seeking treatment for infertility.

## II. EMBRYO BANKING

The Abraham Center, during its short time in the embryo banking business, was the self-proclaimed only embryo bank in North America, so it serves as the prototype embryo bank for the near future.<sup>6</sup> However, embryo banking represents a departure from

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2008); Wikipedia, Embryo, <http://en.wikipedia.org/wiki/Embryos> (last visited Feb. 24, 2008).

<sup>6</sup> See *Letter to our Readers*, *supra* note 4. After its well publicized and highly controversial launch, the Abraham Center ceased to offer embryos to the infertile on May 30, 2007. See *Abraham Center of Life No Longer in Embryo Business*, <http://www.eworldwire.com/pdf/17092.pdf> (claiming it was no longer cost effective to offer

the more traditional forms of gamete storage.

### A. Traditional Gamete Storage

It is important to note that an embryo bank like the Abraham Center differs distinctly from traditional banks that merely store gametes.<sup>7</sup> For instance, sperm banks cryogenically preserve sperm contributed from male donors.<sup>8</sup> Current sperm cryopreservation technologies can result in successful fertilization even after two decades of storage.<sup>9</sup> Although sperm cryopreservation enjoys widespread use, egg storage still remains experimental.<sup>10</sup> Yet, even though egg storage remains problematic, once the egg is fertilized with sperm, the resulting embryo can be cryopreserved similar to sperm and later thawed for implantation into a female willing to carry the embryo to term.<sup>11</sup>

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embryo banking services, but the Abraham Center would continue to operate as an "advertising agency for surrogates and egg donors, and attempt to offer options to the thousands of potential parents that have contacted them worldwide."). Although the Abraham Center ceased embryo banking operations in 2007, this paper uses the Abraham Center as a model for discussion purposes.

<sup>7</sup> "Gamete" is defined as "a haploid reproductive cell [egg or sperm], whose union is necessary in sexual reproduction to initiate the development of a new individual." Cf. "Embryos" are defined as "those derivatives of the [fertilized egg] that will eventually become the offspring . . ." DORLAND'S ILLUSTRATED MEDICAL DICTIONARY (27th ed. 1988).

<sup>8</sup> The California Cryobank is one of the world's largest providers of sperm banking services. For an in-depth look into the history of sperm banking and cryopreservation, see Sperm Banking History, <http://www.cryobank.com/sbanking.cfm?page=2&sub=126> (discussing among other things that the acceptance of cryopreserving sperm increased dramatically in the late 1980s due to concerns of HIV transmission to potential sperm recipients. Quarantining sperm for six months allowed for recipients to be certain that the donor did not carry the human immunodeficiency virus at the time of sperm donation).

<sup>9</sup> The Fairfax Cryobank based in Fairfax, Virginia is another leading sperm bank in the industry. See Fairfax Cryobank: Sperm Banking with Fairfax Cryobank, <http://www.fairfaxcryobank.com/spstorfaq.aspx> (last visited Feb. 24, 2008) (discussing that although approximately half of frozen sperm do not survive the freezing process, the remaining sperm can be stored nearly indefinitely and that pregnancies have occurred after twenty years of storage).

<sup>10</sup> See Fairfax Cryobank: Oocyte Storage (Egg Freezing), <http://www.fairfaxcryobank.com/OocyteStorage.aspx> (last visited Feb. 24, 2008) (explaining that although egg storage technology remains an "experimental option," the techniques used are continuously improving).

<sup>11</sup> See Fairfax Cryobank: Embryo Storage, <http://www.fairfaxcryobank.com/emstorage.aspx> (last visited Feb. 24, 2008) (discussing successful pregnancies resulting from thawed embryos frozen for over ten years).

## B. The Abraham Center of Life Business Model

The characterization of the Abraham Center as an “embryo bank” may be misleading given the history of the operation. The owner, Jennalee Ryan, stated in January 2007 that although she promoted the company as an embryo bank, “as of yet, it’s a bank without anything in it.”<sup>12</sup> The Abraham Center did not maintain an inventory because as it created embryos, they were immediately implanted into waiting clients.<sup>13</sup> Similar to compensation for gamete donors, Ms. Ryan claims that she did not sell the embryos but rather sold the service associated with providing the embryos.<sup>14</sup> In essence, Ms. Ryan acted as a broker that facilitated the exchange between all the interested parties.<sup>15</sup> The Abraham Center announcement resulted in widespread media attention, including a fair amount of criticism.<sup>16</sup>

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<sup>12</sup> Joe Palca, *Adoption Agency Offers Up Embryos to Couples*, NAT’L PUB. RADIO BROADCAST (Jan. 8, 2007), <http://www.npr.org/templates/story/story.php?storyId=6749036&sc=emaf>.

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> The interested parties in these types of transactions might include: the egg donor, the sperm donor, the clinic where implantation takes place, the licensed healthcare professional that combines the gametes, the licensed healthcare professional that implants the resulting embryo, and the intended recipient(s) of the embryo. Other interested parties could also include legal representatives (to both gamete donors, facilities, and intended recipients) and couriers. See generally Georgia Reproductive Specialists: Overview for IVF Patients, <http://www.ivf.com/overview.html> (last visited Feb. 24, 2008) (discussing the procedures for collection of gametes from donors and implantation of the resulting embryo into the intended recipient).

<sup>16</sup> See Tony Perkins, *Embryo Bank an Unwise Investment for Parents*, FAM. RES. COUNCIL, Jan. 8, 2007, <http://www.frc.org/get.cfm?i=WA07A13> (claiming that embryo banking is “helping to make the field of fertility morally bankrupt.”); Rob Stein, *Ethicists Decry Embryo Brokerage*, WASH. POST, Jan. 6, 2007, at A01 (discussing that some ethicists believe embryo banking treats children like commodities while others believe this is merely a new combination of existing technologies); *The Slope Really is Slippery*, CHRISTIANITY TODAY, Mar. 1, 2007 (stating that embryo banking “is another step down the slippery slope toward the clear evil of eugenics.”) available at <http://www.christianitytoday.com/ct/2007/march/24.29.html>; Michael Vail, *Welcome to Gattaca: The Emergence of Genetic Engineering and Discrimination* (discussing the “Wal-Martization” of embryos) available at <http://www.thought-criminal.org/2007/02/04/welcome-to-gattaca-the-emergence-of-genetic-engineering-and-discrimination>. But cf., Posting of John Robertson to [blog.bioethics.net](http://blog.bioethics.net), <http://blog.bioethics.net/2006/08/john-robertson-on-hyperventilating-over-embryo-ban/> (Prof. John Robertson of the University of Texas School of Law dismissing the outcry over embryo banking as premature because there seems to be little use of embryo banking, and brokering agreements involving gametes are nothing new); Ronald Bailey, *Embryos For Sale: Is the new service ethical?*, REASON, Aug. 18, 2006, available at <http://>

### C. Potential Advantages of the Abraham Center Model

The Abraham Center claimed on its website to offer a number of advantages over more traditional methods of artificial reproductive technologies.<sup>17</sup> Critics of embryo banking, however, point to the existing pool of approximately 500,000 embryos already in frozen storage as a viable alternative to those seeking to create further embryos through an embryo bank.<sup>18</sup> This surplus of embryos in cryostorage comes from infertile couples creating embryos for ART but failing to use them all.<sup>19</sup> The Abraham Center approved of encouraging individuals to seek out adoption of existing embryos from a policy standpoint but indicated that there are several drawbacks to attempting pregnancy using surplus embryos created by other couples undergoing infertility treatment.<sup>20</sup> The Abraham Center claimed that its policy of using only approved egg and sperm donors, in contrast, resulted in a more than twofold increase in pregnancy success rates for their clients.<sup>21</sup>

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[www.reason.com/news/show/36844.html](http://www.reason.com/news/show/36844.html) (concluding “[i]f the Abraham Center of Life can honestly supply willing customers embryos that have a good chance of being born healthy at a lower price than other alternatives, that seems to me to be a recipe for mending hearts rather than breaking them.”). See *infra* Part V (discussing these arguments further).

<sup>17</sup> See *Letter to our Readers*, *supra* note 4 (discussing the prevalence of infertility in both the U.S. and abroad and the need for increased options for infertile individuals that cannot achieve natural childbirth).

<sup>18</sup> See *The Slope Really Is Slippery*, *supra* note 16 (noting that an estimated 500,000 embryos remain in storage in fertility clinics throughout the U.S.). *But cf.* Susan Crockin, *How Do You 'Adopt' a Frozen Egg?*, THE BOSTON GLOBE, Dec. 4, 2005, at D12 (arguing that although there are an estimated 400,000 embryos in storage, very few are truly available for adoption by another couple because the vast majority remain under the control of the originally intended recipients).

<sup>19</sup> See *The Slope Really Is Slippery*, *supra* note 16.

<sup>20</sup> See *Letter to our Readers*, *supra* note 4 (listing three drawbacks associated with attempting pregnancy using surplus embryos created by other couples: (1) surplus embryos were created by individuals seeking treatment for infertility, so they are less likely to result in pregnancy based on that fact alone; (2) couples that donate an embryo are more likely to have an emotional attachment to the potential child which could lead to conflicts; and (3) the recipient family is frequently scrutinized by the embryo donor couple for suitability as a recipient of their embryo).

<sup>21</sup> *Id.* (claiming that by using approved sperm and egg donors with a successful track record of achieved pregnancies, they can increase the chance of a successful pregnancy from approximately thirty percent to an impressive seventy percent).

The other claimed advantage of embryo banking involves the costs associated with the process.<sup>22</sup> The Abraham Center indicated that its processes cost significantly less than both traditional adoption and in vitro fertilization options.<sup>23</sup> For example, the Abraham Center charged \$2,500 for a single embryo, and the estimated cost for a single pregnancy attempt was approximately \$10,000, which is substantially less than repeated attempts at traditional in vitro fertilization and boasted better success rates.<sup>24</sup>

#### D. A Prediction of Embryo Banking in the (near) Future

At the time of this writing, the Abraham Center reported two successful pregnancies associated with its first produced batch of embryos.<sup>25</sup> The first batch of embryos resulted in twenty-two viable embryos.<sup>26</sup> The eggs came from a student in her twenties, and the sperm came from a tall attorney with blond hair and blue eyes.<sup>27</sup> Two women (one a U.S. citizen, the other a Canadian) each received two embryos for implantation, and the remaining embryos were split equally by the women and placed in cryopreservation for potential future use.<sup>28</sup> This “sharing” of the single batch of embryos by two women may be an indication of how the Abraham Center achieved its claimed cost savings.<sup>29</sup>

As mentioned earlier, the Abraham Center began its operation in 2006 and did not maintain an inventory of embryos for purchase due to clients acquiring embryos as soon as they were created.<sup>30</sup> Although the Abraham Center ceased embryo banking operations after a short period of time, as the saying goes—the genie is out of the bottle.

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<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> See Stein, *supra* note 16, at A01.

<sup>25</sup> *Id.* The Abraham Center did not publicize any further pregnancies arising from its embryo banking activities prior to the cessation of embryo banking operations in May of 2007.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> See Stein, *supra* note 16.

<sup>30</sup> See Palca, *supra* note 12.

Given the high number of infertile couples, the high cost of in vitro fertilization, and the relatively low costs claimed by the Abraham Center, it seems likely that others will follow the Abraham Center's lead resulting in growth of the embryo banking industry.<sup>31</sup> The question becomes: what will the embryo bank of the future look like?

If embryo banking tracks the user-friendly nature of researching egg donors and sperm donors, then we can expect an embryo bank to be fully searchable based on a myriad of desired characteristics.<sup>32</sup> Given the already existing searchable databases for both egg and sperm donors, it is reasonable to expect embryo banks to have similar search capabilities.<sup>33</sup> Critics equate embryo banking in the future with the process of ordering a Dell computer online<sup>34</sup> or constructing a unique stuffed animal through the popular Build-a-Bear workshops.<sup>35</sup> One can also imagine that an embryo bank of the future would provide not only searchable information based on the donors of the egg and sperm, but also searchable information based on the

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<sup>31</sup> *Fertility, Family Planning, and Reproductive Health of U.S. Women: Data From the 2002 National Survey of Family Growth*, CENTER FOR DISEASE CONTROL: NAT'L CTR. FOR HEALTH STATISTICS (2002), available at [http://www.cdc.gov/nchs/data/series/sr\\_23/sr23\\_025.pdf](http://www.cdc.gov/nchs/data/series/sr_23/sr23_025.pdf) (finding that 7.4% of married women, or 2.1 million women, in 2002 met the clinical definition for infertility ("twelve months or longer without birth control and without a pregnancy")).

<sup>32</sup> The Fairfax Cryobank database allows for searching sperm donors based on: race, height, weight, eye color, Rh factor, education, and many other traits. Once a donor is identified, you can further review medical history, childhood photos, and even audio interviews in some cases. The results of the search are listed in your "shopping cart." See Fairfax Cryobank Donor Information Center, <http://www.fairfaxcryobank.com/cryo/shoppingcart/search.cfm> (last visited Feb. 24, 2008). Similar, although not as user-friendly, searching capability also exists for potential egg donors at Ova the Rainbow, <http://www.ovatherainbow.com/eggdonordatabase1.htm> (last visited Feb. 24, 2008).

<sup>33</sup> One can easily envision a website for an embryo bank of the future that allows the user to simply click on a desired set of characteristics and generate a list of "matching" embryos available for immediate shipment. A similar service already exists for overnight sperm shipment known as "Priority Male". See Cryogenic Laboratories, Inc., <http://www.cryolab.com/Default.aspx?section=spermbanking&page=priorityMale> ("Priority Male" is a service for rapid delivery of sperm from the donor to the Fairfax facility but in a future world may be applied to delivery from the embryo bank to the end user) (last visited Feb. 24, 2008).

<sup>34</sup> See Stein, *supra* note 16; see generally Dell, Inc., <http://www.dell.com> (last visited Feb. 24, 2008).

<sup>35</sup> See Perkins, *supra* note 16; see generally Build-A-Bear Workshop, Inc., <http://www.buildabear.com> (last visited Feb. 24, 2008).



embryo itself.<sup>36</sup> Without regulation, we can envision an embryo bank that allows a user to select an embryo based on gender or on the presence or absence of a particular genetic trait. If the embryo bank allows for this type of search capability, one can imagine a potential family selecting a female embryo, lacking the gene for cystic fibrosis, produced by an Ivy League educated attorney of Germanic decent sperm donor, and an all-American, softball playing egg donor from the South that enjoys quilting in her spare time.<sup>37</sup> With this potential embryo bank of the future in mind, we now move on to discuss the legal status of the early embryo.

### III. LEGAL STATUS OF THE EARLY EMBRYO

Fundamental to the discussion of embryo banking, or any other artificial reproductive technology, is the question of whether an embryo should be regarded as a “person”, as “property,” or as some other “special category” based on the unique nature of an embryo. The Tennessee Supreme Court analyzed this very question in the landmark case of *Davis v. Davis*.<sup>38</sup>

#### A. The *Davis* Framework

The *Davis* case required the Tennessee Supreme Court to determine the legal status of seven frozen embryos for the purposes of a divorce settlement.<sup>39</sup> The husband and wife created the embryos

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<sup>36</sup> The technique of Pre-implantation Genetic Diagnosis (PGD) allows for removal of one cell of an eight-cell embryo for the purpose of screening for genetic traits. Use of PGD can determine the sex of the resulting embryo as well as provide an extensive list of genetic characteristics (e.g., whether or not the embryo carries a deleterious gene). The remaining seven-cell embryo develops into a complete individual with no ill effects from the removal of the single cell. See JUDITH DAAR, REPRODUCTIVE TECHNOLOGIES AND THE LAW, 304-07 (LexisNexis 2006).

<sup>37</sup> This is but a small example of the specificity that could be obtained by a well-run database and a selective embryo recipient. The ethics of a database searchable by the characteristics of the resulting embryo are discussed further in the provisions of the proposed Model Act in Part VI *infra*.

<sup>38</sup> 842 S.W.2d 588, 594 (1992).

<sup>39</sup> *Id.* at 589-90 (discussing that Mary Sue Davis desired custody of the embryos for donation to an infertile couple; Junior Davis preferred that the embryos remain in cryopreservation until such time that he desired to become a parent).

using their own genetic material but failed to create a written instrument regarding disposition of the embryos if they should divorce.<sup>40</sup> The trial court held that the embryos were “human beings,” awarded “custody” to Mary Sue Davis, and directed that she “be permitted the opportunity to bring these children to term through implantation.”<sup>41</sup> The Court of Appeals reversed and remanded to the trial court with instructions to award joint control over the embryos to both parents.<sup>42</sup> The Tennessee Supreme Court held that 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>43</sup> The Tennessee Supreme Court then created a three-part test for determining the disposition of frozen embryos which involved first looking to the preferences of the progenitors of the genetic material followed by an examination of any agreements between the parties and finally involving a balancing of the parties’ interests.<sup>44</sup> Although not binding on other state courts, the *Davis* case and its framework figures prominently in all subsequent cases involving disposition of embryos.<sup>45</sup>

### **B. Arguments for Classification of Embryos as “Persons”**

A variety of legislative enactments indicate that embryos should be classified as persons with all the rights of a person attaching. Louisiana passed the only statute in the U.S. to explicitly state that embryos are persons under the law.<sup>46</sup> The statute states that “[a]n in vitro fertilized human ovum exists as a juridical person until such

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<sup>40</sup> *Id.* at 592.

<sup>41</sup> *Id.* at 589.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.* at 597.

<sup>44</sup> *Davis*, 842 S.W.2d at 604.

<sup>45</sup> See *Kass v. Kass*, 696 N.E.2d 174, 178–79 (N.Y. 1998) (New York Court of Appeals decision citing *Davis*); *Litowitz v. Litowitz*, 48 P.3d 261, 265 (Wash. 2002) (Washington Supreme Court decision citing *Davis*); *A.Z. v. B.Z.*, 725 N.E.2d 1051, 1056–57 (Mass. 2000) (Supreme Judicial Court of Massachusetts citing *Davis*); and *Roman v. Roman*, 193 S.W.3d 40, 45 (Tex. App.—Houston [1st Dist.] 2006), *pet. filed* (Texas Court of Appeals citing *Davis*).

<sup>46</sup> See generally LA. REV. STAT. ANN. § 9:123 (1986).

time as the in vitro fertilized ovum is implanted in the womb . . . .”<sup>47</sup> Louisiana law states that embryos are “human beings” and are neither the property of the clinic where they are stored nor the donors of the genetic material.<sup>48</sup> At the time of this writing, Louisiana remains the only state with such a statute.<sup>49</sup>

Fetal homicide statutes, as another category of law, might also be applicable to the question of an embryo’s legal status. Many jurisdictions contain fetal homicide laws that consider a fetus a person under the law and allow for greater penalties for killing a pregnant woman.<sup>50</sup> For example, the Texas Penal Code defines an individual as “a human being who is alive, including an unborn child at every stage of gestation from fertilization until birth.”<sup>51</sup> Of the thirty-seven states to pass fetal homicide laws, fifteen extend the protection of the law to the earliest stage of pregnancy (i.e., at fertilization).<sup>52</sup>

Nightlight Christian Adoptions (“Nightlight”) also holds the view that life begins at conception.<sup>53</sup> Nightlight was the first adoption

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<sup>47</sup> *Id.*

<sup>48</sup> LA. REV. STAT. ANN. §9:126 (1986).

<sup>49</sup> In March of 2007, Georgia legislators introduced a “Paramount Right to Life” amendment which would amend the Georgia constitution to grant “personhood” to Georgia citizens from fertilization until death. At the time of this writing, Georgia H.R. 536 (Ga. 2007) has been tabled in the judiciary committee of the Georgia House of Representatives. See <http://personhood.net/default.htm>; H.R. 536 (Ga. 2007). At least six states have “human life amendment” proposals in progress. See Kathy Lohr, “Human Life” Amendments Latest Challenge to Roe, NAT’L PUB. RADIO BROADCAST (Jan. 22, 2008), <http://www.npr.org/templates/player/mediaPlayer.html?action=1&t=1&islist=false&id=18292863&m=18292826>. For an in-depth look at the statutes around the U.S. addressing the disposition of embryos created through in vitro fertilization, see *State Laws on Frozen Embryos: Gamete (Egg/Sperm) and Embryo Disposition*, NAT’L CONFERENCE OF STATE LEGISLATURES, <http://www.ncsl.org/programs/health/embryodisposition.htm> (last updated July 2007).

<sup>50</sup> To date, thirty-seven state legislatures have enacted such fetal homicide statutes. For a complete list, see *Fetal Homicide*, NAT’L CONFERENCE OF STATE LEGISLATURES, <http://www.ncsl.org/programs/health/fethom.htm> (last updated Sept. 2007).

<sup>51</sup> TEX. PENAL CODE ANN. §1.07(a)(26) (Vernon 2003 ) (a literal reading of this provision applies only to embryos in a gestational state (i.e., within a womb) and excludes embryos outside the womb (i.e., in vitro)).

<sup>52</sup> Those states are: Arizona, Idaho, Illinois, Louisiana, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Utah, and Wisconsin. See *Fetal Homicide*, *supra* note 50.

<sup>53</sup> See *Snowflakes Embryo Adoption Factsheet*, <http://www.nightlight.org/Snowflakesfacts.pdf>

agency to arrange embryo adoptions; the first “snowflake” baby was born in 1998.<sup>54</sup> The term “embryo adoption” itself implies that an embryo is analogous to a child for adoption purposes. The National Association for the Advancement of Preborn Children (“NAAPC”) also advocates for the treatment of embryos as persons.<sup>55</sup>

The consideration of an embryo as a person often stems from an individual’s personal faith and their beliefs on the nature of life. An example of an organized religion’s stance on when life begins may be found in the Vatican Instruction on Respect for Human Life.<sup>56</sup> According to the Roman Catholic Church, “[t]he human being is to be respected and treated as a person from the moment of conception; and therefore from that same moment his rights as a person must be recognized, among which in the first place is the inviolable right of every innocent human being to life.”<sup>57</sup> Although compelling, this argument contradicts the cases that deal with disposition of human embryos.<sup>58</sup> As stated at the outset, only Louisiana has a statute that specifically protects embryos as juridical persons under the law.<sup>59</sup> Furthermore, the Supreme Court has yet to extend personal rights to the fetus so by extension it has not extended rights to the embryo either.<sup>60</sup>

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(arguing in their factsheet that, “[w]hen embryos are created, life begins” and “[t]hese are pre-born children waiting for a chance at life” ) (last visited Feb. 24, 2008).

<sup>54</sup> Elissa Zirinsky, *Adoptions New Frontier*, CBS NEWS, July 28, 2005, available at <http://www.cbsnews.com/stories/2005/07/28/national/main712541.shtml>.

<sup>55</sup> See National Association for the Advancement of Preborn Children, <http://www.naapc.net/about.asp> (claiming to “advocate through education for the equal humanity and personhood of the preborn child from the moment of conception.”).

<sup>56</sup> See *Instruction On Respect for Human Life in its Origin and on the Dignity of Procreation: Replies to Certain Questions of the Day*, THE ROMAN CURIA: DOCTRINE OF THE FAITH (Feb. 22, 1987), available at [http://www.vatican.va/roman\\_curia/congregations/cfaith/documents/rc\\_con\\_cfaith\\_doc\\_19870222\\_respect-for-human-life\\_en.html](http://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19870222_respect-for-human-life_en.html) (“The human being must be respected - as a person - from the very first instant of his existence.”).

<sup>57</sup> *Id.* at (I)(1).

<sup>58</sup> See list of cases refraining from regarding embryos as persons, *supra* note 45.

<sup>59</sup> LA. REV. STAT. ANN. § 9:123 (1986).

<sup>60</sup> *Thorsbury v. Am. Coll. of Obstetricians and Gynecologists*, 476 U.S. 747, 779 (1986) (“No Member of this Court has ever suggested that a fetus is a ‘person’ within the meaning of the Fourteenth Amendment.”) (Stevens, J., concurring).

### C. Arguments for Classification of Embryos as “Property”

Perhaps some of the desire for treating embryos as property stems from the simplicity of this rule. Treating embryos as property allows us to use well-developed principles of contract law to resolve disputes without risking a collapse of the entire artificial reproductive technology industry.<sup>61</sup> Cases dealing with embryo disposition since *Davis* tend to rely on contractual provisions to obviate the need to determine if an embryo qualifies as a person under the law.<sup>62</sup> State courts seem content to rely on contract law rather than delve into the difficult determination of whether embryos are persons.<sup>63</sup> The Supreme Court also seems disinclined at this time to enter the debate.<sup>64</sup>

A strong counterargument against the classification of embryos as property comes from the seminal paper by Professor Radin discussing “market inalienability.”<sup>65</sup> Professor Radin argues some things just should not be sold; thus, they are market inalienable.<sup>66</sup> Under Professor Radin’s theory, allowing the sale of market inalienable goods leads to the commodification of those goods.<sup>67</sup>

### D. Summary of Existing Law

Although the *Davis* framework held that embryos are entitled to

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<sup>61</sup> *Davis*, 842 S.W.2d at 595 (the *Davis* court recognized that treating an embryo as a “person” (as the trial court did) risked banning all in vitro fertilization in the state of Tennessee).

<sup>62</sup> *Kass*, 91 N.Y.2d at 564–65 (court interpretation of a prior agreement between the parties regarding disposition of the embryos avoided the inquiry into whether the embryo was entitled to “special respect” under the *Davis* framework).

<sup>63</sup> *Litowitz*, 48 P.3d at 271 (“It is not necessary for this court to engage in a legal, medical or philosophical discussion whether the embryos in this case are ‘children,’ . . . [W]e base our decision solely upon the contractual rights of the parties . . .”).

<sup>64</sup> *Doe v. Shalala*, 122 Fed. Appx. 600 (2004), *cert. denied*, 126 S.Ct. 116 (2005) (petition for writ of certiorari to the U.S. Court of Appeals for the Fourth Circuit denied. Supreme Court refused to hear appeal of Fourth Circuit holding that a frozen embryo lacks standing under the 14th amendment).

<sup>65</sup> Margaret Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849 (1987).

<sup>66</sup> *Id.* at 1852 (arguing as examples that market inalienability can be applied to three areas including prostitution, baby-selling, and surrogate motherhood).

<sup>67</sup> *Id.* at 1855.

special respect because of their potential for human life,<sup>68</sup> most courts rely on contractual agreements to resolve disputes and abstain from classifying embryos in any context.<sup>69</sup> Only Louisiana has a law specifically protecting embryos in vitro as “persons.”<sup>70</sup> Other states’ fetal homicide laws appear to be restricted to only embryos within a gestational womb.<sup>71</sup> In light of these observations, it seems the current status of artificially created embryos tracks that of property more than any other categorization.

#### IV. POTENTIAL SOURCES OF REGULATION

Regulation of artificial reproductive technologies directly impacts an infertile individual’s ability to procreate. Supreme Court decisions indicate a fundamental right to procreate in the natural sense, but it remains uncertain how far this Court-recognized right extends to artificial reproduction.<sup>72</sup> Regulation of ART can be categorized by federal regulation, state regulation, or self-regulation by the ART industry.

##### A. Federal Regulation of ART

The Fertility Clinic Success Rate and Certification Act of 1992 (“Act”) is the only federal statute in the U.S. specifically aimed at regulating ART services.<sup>73</sup> Among other things, the Act requires ART clinics to report pregnancy success rates to the U.S. Centers for Disease Control (“CDC”).<sup>74</sup> The CDC provides this information to the states and the public so that individuals choosing an ART clinic can

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<sup>68</sup> *Davis*, 842 S.W.2d at 597.

<sup>69</sup> *Kass*, 91 N.Y.2d at 564–65; *Litowitz*, 48 P.3d at 271.

<sup>70</sup> LA. REV. STAT. ANN. § 9:123 (1986), *supra* note 46.

<sup>71</sup> *See Fetal Homicide*, *supra* note 50.

<sup>72</sup> *See Skinner v. Oklahoma*, 316 U.S. 535, 541 (1942) (“Marriage and procreation are fundamental to the very existence and survival of the race.”); *see also Eisenstadt v. Baird*, 405 U.S. 438, 453 (1972) (“If the right of privacy means anything, it is the right of an individual, married or single, to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child.”).

<sup>73</sup> 42 U.S.C. § 263a-1 to -7 (West 1992).

<sup>74</sup> 42 U.S.C. § 263a-1 (West 1992).

make an informed choice.<sup>75</sup> This Act does not, however, provide for any penalties for failure to report success rates other than the CDC making the failure to report publicly available.<sup>76</sup>

In addition to the CDC, the U.S. Food and Drug Administration ("FDA") impacts ART services by regulation of human cells, tissues, and cellular and tissue-based products ("HCT/Ps").<sup>77</sup> Through the regulation of HCT/Ps, the FDA hopes to decrease the spread of communicable disease.<sup>78</sup> Although the FDA guidelines impact embryos and gametes as tissues, there are exceptions for embryos that are cryopreserved for anonymous donation which may limit FDA oversight over embryo banks.<sup>79</sup> At least one commentator believes the FDA guidelines will negatively impact the donation of embryos and eggs.<sup>80</sup> However, following the publicity surrounding the Abraham Center, the FDA briefly investigated the Abraham Center's facility and determined it lacked jurisdiction.<sup>81</sup>

Another avenue of regulation at the federal level comes from the executive branch. In 2004, the President's Council on Bioethics released a detailed report on the state of the ART industry and made recommendations on how it could be regulated.<sup>82</sup> In the area related to embryos and embryo banks, the council noted that as of 2004, there was no indication of embryo commerce taking place within the U.S.<sup>83</sup> Ultimately, the council recommended three areas for reform: 1)

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<sup>75</sup> 42 U.S.C. § 263a-5 (West 1992).

<sup>76</sup> *Id.*

<sup>77</sup> 21 C.F.R. § 1271 (West 2005).

<sup>78</sup> 21 C.F.R. § 1271.1(a) (West 2005).

<sup>79</sup> 21 C.F.R. § 1271.90(a)(4) (West 2005) (the level of oversight ultimately depends on the FDA's interpretation of these guidelines).

<sup>80</sup> Randy Morris, *New FDA Regulations Will Hurt Egg and Embryo Donation*, May 13, 2005 available at <http://www.ivf1.com/fda-regulations-hurt-egg-donation> (explaining that the FDA needs flexible interpretation of these guidelines to prevent a negative impact on egg donation).

<sup>81</sup> See *FDA Ends Investigation of Embryo Broker*, ASSOCIATED PRESS, Jan. 24, 2007 available at <http://www.msnbc.msn.com/id/16791322/>.

<sup>82</sup> *Reproduction & Responsibility: The Regulation of the New Reproductive Technologies*, REPORT OF THE PRESIDENT'S COUNCIL ON BIOETHICS, Mar. 2004, available at <http://www.bioethics.gov/reports/reproductionandresponsibility/index.html> [hereinafter *President's Council*].

<sup>83</sup> *Id.* at 149.

targeted research into the safety and health risks of ARTs; 2) increased oversight by practitioners and professional organizations; and 3) targeted legislative measures.<sup>84</sup> Under the targeted legislative measures, the council recommended a prohibition on the buying and selling of human embryos.<sup>85</sup> It is interesting to note that the council did not recommend the creation of a new regulatory agency specifically targeted to the ART industry but preferred instead to gather more data through research to determine whether or not such an agency would be beneficial.<sup>86</sup>

### B. State Regulation of ART

State oversight of ART can best be described as a patchwork of regulations. The majority of state regulations address patient access to ART and dictate to what extent ART services should be covered by healthcare insurance.<sup>87</sup> Other areas of state regulation include statutes targeted to the rights of gamete donors, parental rights and obligations, prohibitions on non-therapeutic research on embryos, record keeping by ART clinics, and bans on experimentation.<sup>88</sup> The council report summarizes that “[v]ery few state laws bear directly on assisted reproduction” and that the majority of state regulation comes from the regulation of medicine in general through licensing and certification of medical practitioners.<sup>89</sup>

### C. Industry Self-Regulation

The American Society for Reproductive Medicine (“ASRM”) acts as the primary industry association related to ART. According to their mission statement, ASRM is a “multidisciplinary organization committed to the advancement of reproductive medicine by serving

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<sup>84</sup> *Id.* at xlv–xlix.

<sup>85</sup> *Id.* at 223 (The council also stated that it disapproved of the buying and selling of sperm and eggs but that since the practice of selling gametes was commonplace, it would be difficult to prohibit its practice today).

<sup>86</sup> *Id.* at 204.

<sup>87</sup> *President’s Council*, *supra* note 82, at 51 (detailing state regulation of ART in its report as well as federal oversight).

<sup>88</sup> *Id.* at 51–54.

<sup>89</sup> *Id.* at 54.



as the leading advocate for patient care, research and education.”<sup>90</sup> ASRM frequently publishes policy suggestions in the form of Ethics Committee Reports regarding various aspects of artificial reproduction.<sup>91</sup> Regarding embryos, ASRM released an ethics committee report in 2002 addressing stem-cell research on donated embryos.<sup>92</sup> In the report, ASRM rejects the view that embryos are entitled to the same moral status as persons and instead indicates that an embryo is a “potential human being worthy of special respect.”<sup>93</sup>

The Society for Assisted Reproductive Technology (“SART”) also influences the ART industry.<sup>94</sup> Since 2004, SART has compiled and published on its website the data collected by the CDC under the authority of the Fertility Clinic Success Rate and Certification Act of 1992 giving broader access of this information to the public.<sup>95</sup> In addition to reporting success rate data, SART also creates practice guidelines, interacts with government agencies to steer public policy, and contributes to the knowledge base of ART through research by its members.<sup>96</sup>

#### D. International Perspectives on Regulation

International perspectives can also give insight into different views on regulation of artificial reproductive technologies. At the high end of the international regulatory spectrum is the United Kingdom with its comprehensive Human Fertilisation and Embryology Authority (“HFEA”) created by Parliament in 1990.<sup>97</sup>

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<sup>90</sup> American Society for Reproductive Medicine, *Mission Statement*, <http://www.asrm.org/mission.html> (approved Oct. 21, 2006).

<sup>91</sup> American Society for Reproductive Medicine, *Ethics Committee Reports & Statements*, available at <http://www.asrm.org/Media/Ethics/ethicsmain.html>.

<sup>92</sup> *Donating Spare Embryos for Embryonic Stem-Cell Research*, 78 FERTILITY AND STERILITY 957, 957-60 (2002), available at <http://www.asrm.org/Media/Ethics/donatingspare.pdf>.

<sup>93</sup> *Id.*

<sup>94</sup> See SART, <http://www.sart.org> (“SART is the primary organization of professionals dedicated to the practice of assisted reproductive technologies (ART) in the U.S.”).

<sup>95</sup> *What is SART?*, <http://www.sart.org/WhatIsSART.html>; see also Clinic Summary Report, [https://www.sartcorsonline.com/rptCSR\\_PublicMultiYear.aspx?ClinicPKID=0](https://www.sartcorsonline.com/rptCSR_PublicMultiYear.aspx?ClinicPKID=0).

<sup>96</sup> *Id.*

<sup>97</sup> HUMAN FERTILISATION AND EMBRYOLOGY ACT, 1990, c. 37 (Eng.) available at <http://>

HFEA regulates several aspects of ART including the licensing and inspection of facilities undergoing ART.<sup>98</sup> However, since its creation, HFEA has entered a number of areas of reproduction not explicitly authorized by their organic statute, leading to some criticism.<sup>99</sup> Critics often indicate that the Act creating HFEA did not contemplate many of the new artificial reproductive technologies facing society today.<sup>100</sup> A spokesperson for HFEA in 2002 stated that the organic statute was possibly out of date and needed revisiting.<sup>101</sup>

One of the more controversial HFEA regulations recently passed requires disclosure of a sperm or egg donor's personal information to a child conceived from the donor's gamete upon the child reaching the age of eighteen.<sup>102</sup> The rule only applies to donations made after April 1, 2005,<sup>103</sup> meaning that the first year during which children can seek disclosure of this information is 2023.<sup>104</sup> Critics argue that patients seeking a donor egg routinely have to wait one to two years for availability and that the new donor disclosure requirement by HFEA will cause further delays unless the regulations are re-evaluated.<sup>105</sup>

At the other end of the regulatory spectrum are countries which

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[www.opsi.gov.uk/acts/acts1990/Ukpga\\_19900037\\_en\\_1.htm](http://www.opsi.gov.uk/acts/acts1990/Ukpga_19900037_en_1.htm) (act creating the Human Fertilisation and Embryology Authority).

<sup>98</sup> *Id.* at § 5.

<sup>99</sup> Shaun Pattinson, *Some Problems Challenging the UK's Human Fertilisation and Embryology Authority*, 24 *MED. & L.* 391, 393 (2005) (quoting a House of Commons Select Committee discussing the problem of an organization extending its reach into areas unintended by Parliament declaring that "democracy is not served by unelected quangos (quasi-autonomous non-governmental organizations) taking decisions on behalf of Parliament").

<sup>100</sup> Emma Young, *"Designer Baby" Ruling Stokes Controversy*, *NEWSIDENTIST.COM*, Aug. 2, 2002, available at <http://www.newscientist.com/article.ns?id=dn2629>.

<sup>101</sup> *Id.*

<sup>102</sup> Human Fertilisation and Embryology Authority (Disclosure of Donor Information) Regulations 2004, No. 1511, available at <http://www.opsi.gov.uk/SI/si2004/20041511.htm>.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> Ian Craft et al., *Will Removal of Anonymity Influence the Recruitment of Egg Donors? A Survey of Past Donors and Recipients*, 10 *REPROD. BIOMEDICINE ONLINE* 325, 325-29 (2005) (author's survey results show that over one-third of individuals that had previously donated eggs prior to the donor disclosure rule would not have done so if the rule existed when they donated).

are just beginning to address the issues surrounding ART.<sup>106</sup> India is one such country now considering regulation of the ART industry.<sup>107</sup> A new bill proposed by the Indian Council on Medical Research (“ICMR”) seeks to regulate various aspects of ART including accreditation, regulation, and supervision of ART clinics.<sup>108</sup> The bill also seeks to regulate the more personal rights impacted during ART procedures such as surrogacy and the rights of the relevant parties involved.<sup>109</sup>

The Italian system serves as an example of a very restrictive regulatory scheme over reproductive technologies.<sup>110</sup> The Italian law, passed in February of 2004, seeks to regulate all aspects of artificial reproductive technologies.<sup>111</sup> The Italian system has been called the most restrictive system in all of Europe.<sup>112</sup> Under the Italian law, access to reproductive technologies is restricted to heterosexual couples, who are only allowed to use their own gametes and are prohibited from using gametes from a donor.<sup>113</sup> In addition, no more than three embryos may be created at one time, and women are required to implant all embryos created regardless of their health status.<sup>114</sup> Also under the Italian law, eggs may be cryopreserved, but embryos are prohibited from undergoing cryopreservation as it “constitutes an offence against the respect due to human beings . . . .”<sup>115</sup> The strict nature of the Italian law has led to a tripling of the rate of fertility tourism since it went into effect in 2004.<sup>116</sup>

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<sup>106</sup> Teena Thacker, *Law Soon to Monitor Fertility Clinics*, Jan. 19, 2007, <http://www.indianexpress.com/story/21243.html>.

<sup>107</sup> *Id.*

<sup>108</sup> *Id.*

<sup>109</sup> *Id.*

<sup>110</sup> Rachel Anne Fenton, *Catholic Doctrine Versus Women's Rights: The New Italian Law on Assisted Reproduction*, 14 *MED. L. REV.* 73, 73 (2006) (permitting “access to assisted reproduction within very narrow confines”).

<sup>111</sup> Law 40/2004. (The full text (in Italian) of the bill “*Norme in materia di procreazione medicalmente assistita*,” available at <http://www.parlamento.it/leggi/e/elenum.htm>).

<sup>112</sup> Fenton, *supra* note 110, at 74.

<sup>113</sup> *Id.* at 73.

<sup>114</sup> *Id.* at 73, 98.

<sup>115</sup> *Id.* at 98.

<sup>116</sup> *Id.* at 73 (fertility tourism refers to the practice of traveling outside your own country for receipt of artificial reproductive technologies).

## V. ARGUMENTS FOR AND AGAINST EMBRYO BANKING

Given the wide range of regulatory perspectives on ART and their varying impact on society, we now look to the arguments for and against condoning embryo banking to evaluate whether this concept should be permitted.

### A. Advantages of Embryo Banking

The primary argument for allowing embryo banking relates to an increase in access to procreation for the infertile. In the U.S. over two million married women meet the standard for infertility set by the CDC.<sup>117</sup> For all women of childbearing age, more than eleven percent, or over seven million women, sought some form of infertility service in 2002.<sup>118</sup> Furthermore, the costs associated with treatment of infertility are extensive and often result in a limitation of ART to the more affluent members of society.<sup>119</sup> Costs for a successful in vitro fertilization procedure in 1994 started at an average of over \$66,000.<sup>120</sup> The 1994 data assumed a base cost of \$8,000 for the in vitro procedure itself, but current cost estimations by ASRM put that figure at over \$12,000 which represents a fifty percent increase over the 1994 data.<sup>121</sup> When you combine the prevalence of infertility with the high cost of ART and add the relative lack of insurance coverage, you end up with a substantial barrier to ART services in the U.S.<sup>122</sup> In the last three decades, only fifteen states have passed legislation

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<sup>117</sup> See *supra* note 31 (does not include the infertility rate for single women).

<sup>118</sup> *Id.* at Table 97 (childbearing age, according to the CDC, ranges from fifteen to forty-four years of age and includes sixty-one million women in the U.S.; infertility services include: advice, fertility testing of either man or woman, ovulation drugs, medical help to prevent miscarriage, surgery, artificial insemination, and assisted reproductive technology).

<sup>119</sup> Peter Neumann, Soheyla Gharib & Milton Weinstein, *The Cost of a Successful Delivery With In Vitro Fertilization*, 331 NEW ENG. J. MED. 239, 239 (1994) (study undertook to determine the cost of a successful experience of in vitro fertilization, i.e., resulting in a live birth).

<sup>120</sup> *Id.* (costs in study included: the actual procedure, office visits, leave from work, and any resulting complications).

<sup>121</sup> See Frequent Questions Asked About Infertility, <http://www.asrm.org/Patients/faqs.html#Q6> (last visited Feb. 24, 2008).

<sup>122</sup> See 50 State Summary of State Laws Related to Insurance Coverage for Infertility Therapy, NAT'L. CONFERENCE OF STATE LEGISLATURES, <http://www.ncsl.org/programs/health/50infert.htm> (last updated Jan. 2008).

requiring insurance companies to either cover or offer coverage for infertility diagnosis and treatment.<sup>123</sup>

The Abraham Center claimed that its business process of embryo banking resulted in only \$2,500 for a single embryo and a total cost for a single pregnancy attempt of \$10,000.<sup>124</sup> This figure represents a more than twenty percent lower cost compared to the ASRM figure of \$12,400 for traditional ART treatment. The Abraham Center also claimed that, in addition to these cost savings, its embryos were more than twice as likely to result in a successful delivery which further decreased the costs of repeated attempts.<sup>125</sup> Furthermore, one can imagine that reducing the number of times an individual or couple has to endure the difficulties associated with ART substantially reduces the accompanying emotional costs as well.<sup>126</sup>

Restricting access to reproductive technologies leads to an increase in the incidence of fertility tourism as demonstrated by the Italian law passed in 2004.<sup>127</sup> As a result of the Italian law severely restricting access, reproductive tourism increased by over fifty percent the following year.<sup>128</sup> Medical tourism of all types continues to increase as overseas countries develop more sophisticated medical facilities to meet the demand for inexpensive healthcare.<sup>129</sup> Medical tourism especially appeals to U.S. citizens who lack health insurance coverage for expensive procedures.<sup>130</sup> The international market for fertility tourism recognizes this trend and already caters to the U.S. consumer. For example, IVF Australia has a section of their website dedicated to "Overseas Patients," showing their willingness to accommodate patients seeking treatment with "modest budgets" and

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<sup>123</sup> *Id.*

<sup>124</sup> *Supra* note 24 and accompanying text.

<sup>125</sup> *See supra* note 21 and accompanying text.

<sup>126</sup> *See The Emotions of Infertility*, [http://www.resolve.org/site/PageServer?pagenam=cop\\_mis\\_manem](http://www.resolve.org/site/PageServer?pagenam=cop_mis_manem) (RESOLVE, a patient advocacy group, discussing the emotional burdens associated with undergoing infertility treatment including: dealing with loss, physical depression, and guilt and shame for feeling less than normal).

<sup>127</sup> *See supra* note 116 and accompanying text.

<sup>128</sup> *Id.* at 73 n.7.

<sup>129</sup> *See* Becca Hutchinson, *Medical Tourism Growing Worldwide*, UNIV. OF DEL. UDAILY, Jul. 25, 2005, available at <http://www.udel.edu/PR/UDaily/2005/mar/tourism072505.html>.

<sup>130</sup> *Id.*

“particularly for those people from countries where the technology is not available.”<sup>131</sup> Interestingly enough, prior to ceasing embryo banking operations in May of 2007, the Abraham Center posted on its website a link to a company in the Czech Republic indicating that, because of all the media attention, the Abraham Center could not meet the overwhelming demand for their services.<sup>132</sup> The Czech company, IVFvacation.com, offers a complete fertility tourism service including air fare, lodging, in vitro fertilization, and day trips to Prague or Vienna.<sup>133</sup> Through IVFvacation.com the total cost for a ten day stay, including implantation of a donor egg, costs less than \$7,000.<sup>134</sup>

Fertility tourism is inevitable regardless of the availability of embryo banking in the U.S. An open market for embryo banking will discourage U.S. citizens from seeking treatment outside the U.S. but will lead to fertility tourists coming to the U.S..<sup>135</sup> Conversely, prohibitions on embryo banking in the U.S. will reduce the influx of fertility tourists but will likely result in more U.S. citizens seeking international services such as IVF Australia or IVFvacations.com.<sup>136</sup>

## B. Disadvantages of Embryo Banking

The disadvantages to allowing the practice of embryo banking are also compelling. The primary arguments against embryo banking are that the practice leads to a commodification of human life and that it constitutes another step in the direction of eugenics.

As Professor Radin contended twenty years ago, if we allow the

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<sup>131</sup> See IVF Australia, <http://www.ivf.com.au/pages/overseas.php> (last visited Feb. 24, 2008).

<sup>132</sup> See The Abraham Center of Life, <http://www.theabrahamcenteroflife.com/index4.html> (last visited Mar. 7, 2007) (on file with author).

<sup>133</sup> See IVF Vacation, <http://www.ivfvacation.com/Howitworks.html> (last visited Feb. 24, 2008).

<sup>134</sup> See IVF Vacation, <http://www.ivfvacation.com/prices.html> (last visited Feb. 24, 2008) (if the patient prefers to use her own eggs, she can opt for a twenty-one day stay and pay \$6,564 plus airfare).

<sup>135</sup> Tess Stimson, *Terrifying Truth of the 'Supermarket Baby Trade' Exposed*, DAILY MAIL, Jan. 24, 2007, available at [http://www.dailymail.co.uk/pages/live/femail/article.html?in\\_article\\_id=431235&in\\_page\\_id=1879](http://www.dailymail.co.uk/pages/live/femail/article.html?in_article_id=431235&in_page_id=1879) (discussing phone interview with Abraham Center owner Jennalee Ryan stating that she received several calls from potential British clients every day).

<sup>136</sup> See *supra* notes 131 and 133 and accompanying text.

sale of babies, we commodify not only the infant itself but also the procreation capacity of the gamete providers.<sup>137</sup> Furthermore, when a baby is sold as a commodity, we create a system where all of the individual attributes of the child, such as eye color, gender, and race, also become commodities.<sup>138</sup> Also of concern is the very real possibility of what Professor Radin referred to as a “commodified self-conception” where the individual treated as a commodity comes to think of themselves as a commodity, thus decreasing their own perceived self worth.<sup>139</sup> Robert George, a member of the President’s Council on Bioethics, recently stated that “[i]f we let the reproductive technology evolution erode the understanding of our fundamental worth and dignity, and begin to think of children as products that are better or worse [based on certain traits], the consequences for civilization are really dire.”<sup>140</sup> Over time these same arguments have been applied to the compensation of sperm and egg donors, compensation of surrogate mothers, and to the concept of embryo banking. ASRM’s ethics committee published a report in 2000 addressing their position on the compensation of egg donors.<sup>141</sup> In their report, ASRM lists three reasons for allowing financial incentives to egg donors.<sup>142</sup> First, allowing compensation to egg donors increases the overall number of donors, thereby increasing access to childbirth for the infertile.<sup>143</sup> Second, ASRM claimed that compensation does not discourage altruism among donors.<sup>144</sup> And finally, financial incentives are a fair result and failure to offer them would diminish the donors’ contribution.<sup>145</sup> The ethics report

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<sup>137</sup> See Radin, *supra* note 65 at 1925 and accompanying text.

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* at 1926.

<sup>140</sup> Amanda Paulson, “Embryo Bank”: New Hope or Too Far?, CHRISTIAN SCIENCE MONITOR, Jan. 18, 2007, available at <http://www.csmonitor.com/2007/0118/p03s02-ussc.html>.

<sup>141</sup> The Ethics Committee of the American Society of Reproductive Medicine, *Financial Incentives in Recruitment of Oocyte Donors*, 74 FERTILITY AND STERILITY 216 (2000) (although this report refers to egg donors specifically, the justifications for allowing financial incentives are probably transferable to other forms of ART including embryo banking).

<sup>142</sup> *Id.* at 218.

<sup>143</sup> *Id.*

<sup>144</sup> *Id.* (citing surveys showing that even donors that were compensated still felt that altruistic reasons were a strong motivating factor when deciding to donate an egg).

<sup>145</sup> *Id.*

concludes by indicating that payments to egg donors “should be fair and not so substantial that they become undue inducements that will lead donors to discount risks.”<sup>146</sup>

Others focus on the possibility of returning to a policy of eugenics when criticizing embryo banking.<sup>147</sup> Sir Francis Galton coined the term “eugenics” in the late 1800s to mean “well-born,” and the theory reflected his belief that selective breeding could be used to “better the human condition.”<sup>148</sup> The desire to limit the reproductive capacity of those society deemed unfit and the popularity of the eugenics movement led to the creation of compulsory sterilization laws in twenty-seven states early in the 1900s.<sup>149</sup> The case of *Buck v. Bell* in 1927 serves as an example of judicial support of eugenics early in the 20th century.<sup>150</sup> In that case, Justice Holmes, in upholding Virginia’s mandatory sterilization law for mental defectives, made the now infamous comment that “[t]hree generations of imbeciles are enough.”<sup>151</sup> It follows that critics of embryo banking argue that the sale of embryos based on the characteristics of both parents will result in selection of only the most desirable embryos for implantation, resulting in an unwelcome return to our eugenics past.

A final criticism of embryo banking is that it creates additional embryos when a surplus of over 400,000 already exists.<sup>152</sup> However, the vast majority of these 400,000 embryos in cryopreservation cannot be adopted because they remain in control of the originally intended recipients.<sup>153</sup> Estimates suggest a mere two percent of those embryos in storage are offered up for adoption by the intended recipients

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<sup>146</sup> *Id.*

<sup>147</sup> See Paulson, *supra* note 140 (quoting March Darnovsky, associate executive director of the Center for Genetics and Society in Texas saying, “we’re headed down a slope toward eugenics, and we haven’t figured out how to apply the brakes”).

<sup>148</sup> Michael J. Malinowski, *Choosing the Genetic Makeup of Children: Our Eugenics Past, Present, and Future?*, 36 CONN. L. REV. 125, 134 (2003).

<sup>149</sup> *Id.* at 139.

<sup>150</sup> *Buck v. Bell*, 274 U.S. 200 (1927)

<sup>151</sup> *Id.* at 207.

<sup>152</sup> See Crockin, *supra* note 18.

<sup>153</sup> *Id.* (stating that eighty-eight percent of the 400,000 embryos in storage remain under the control of the intended recipients).



following unsuccessful attempts at pregnancy.<sup>154</sup>

## VI. A PROPOSED MODEL ACT

This paper holds the view that the presence of an embryo market can be justified by the arguments in favor of such a market discussed in Part V *infra*. Namely, the presence of an embryo market increases access to procreation for the infertile, which represent a significant portion of our society. In addition, allowing an embryo market to exist offers the potential of reducing the costs associated with ART services, further increasing access to those in lower economic classes. Furthermore, the specific selection for desired characteristics of a sperm donor or an egg donor already exists, and the process of embryo banking merely combines these capabilities. However, the arguments against an embryo market are compelling and worth addressing as the industry moves forward. With that in mind, the following is a "Model Act" for state-by-state consideration that attempts to address the concerns of commodification and eugenics.

### A. Proposed Act

Model Embryo Creation Act of 2008

Purpose: This Act covers creation of embryos for the purpose of embryo banking where no intended recipient or recipients are named at the time of embryo creation.

§ 1: Compliance with Existing Federal Law

Embryos shall not be created for any purpose which violates existing federal law.

§ 2: Legal Status

An embryo under this Act is not a legal person.

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<sup>154</sup> *Id.*

### § 3: Ownership

An embryo created by an embryo bank is the property of the embryo bank and freely transferable under contract law; subject to the other provisions of this Act.

### § 4: Limits on Financial Compensation of Donors

The financial compensation given to embryo banks shall be limited to costs reasonably associated with the creation, storage and maintenance of the embryos.

### § 5: Limitations on Release of Embryos

Embryo banks shall only release custody of embryos to licensed physicians for the sole purpose of implantation of the intended recipient(s).

### § 6: Limits on Categorization of Embryos

Embryos shall only be categorized by the traits (genotype and phenotype) of the gamete donors. Embryos shall not be categorized by the traits of the embryo itself.

## **B. Commentary on the Model Act**

The majority of laws addressing artificial reproductive technologies come from state enactments.<sup>155</sup> At least one commentator believes reform of the ART industry should use a “double decker” approach.<sup>156</sup> In Professor Rosato’s “double decker” approach, she not only argues regulation should begin at the state level but also advocates the creation of a federal agency to oversee all artificial reproductive technologies.<sup>157</sup> This paper agrees with this approach and the Model Act above attempts to address the first step of Professor Rosato’s “double decker” strategy but targeted

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<sup>155</sup> See Part IV.B. *infra*.

<sup>156</sup> Jennifer L. Rosato, *The Children of ART (Assisted Reproductive Technology): Should the Law Protect them from Harm?*, 207 PLI/CRIM 325, 328 (2004).

<sup>157</sup> *Id.*

specifically at embryo creation.

Section One of the Act recognizes the supremacy of federal law and also reflects the current political administration's opinion against stem cell research and cloning.<sup>158</sup>

Section Two of the Act codifies the existing state court decisions unwilling to convey personhood status to embryos.<sup>159</sup> Also, by indicating that embryos lack the same status as an individual, the entire ART industry remains viable.<sup>160</sup>

Section Three continues to address the status of the embryo and clears up any potential confusion on interim ownership. Although the Abraham Center operated as an embryo bank without an inventory,<sup>161</sup> embryo banks of the future most likely will carry an inventory. Furthermore, the ownership of embryos prior to their transfer to the intended recipient needs clarification.

Section Four follows the language of ASRM regarding payment of egg donors and seeks to reinforce the belief that although embryos shall not be bought and sold, fairness requires compensation for the reasonable expenses associated with reimbursing the gamete donors used to create the embryos.<sup>162</sup> This provision also prevents the very real possibility of creation of different embryo classes. For example, absent regulation you might find that female embryos are sold for less than male embryos or that embryos from famous donors could be sold at several times the rate of lesser known donors. This provision specifically targets commodification concerns and prevents the possibility of popular embryos being sold to the highest bidder.

Section Five reflects the desire for only licensed individuals having access to embryos and further reinforces the belief that embryos should not be used for purposes other than achieving pregnancy (such as human cloning and stem cell research).

Section Six acts as the cornerstone of the Model Act. This provision directly addresses the commodification and eugenics

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<sup>158</sup> See *President's Council*, *supra* note 82, at 223.

<sup>159</sup> See cases cited *supra* notes 38 and 45.

<sup>160</sup> *Davis*, *supra* note 38.

<sup>161</sup> Palca, *supra* note 12 and accompanying text.

<sup>162</sup> *Financial Incentives in Recruitment of Oocyte Donors*, *supra* notes 141-46 and accompanying text.

concerns of embryo markets. By limiting the way an embryo can be marketed, this provision ensures that embryo banks merely act as a combination of existing options for infertile clients. Currently, a potential recipient of a donor egg or donor sperm can select their donor based on a myriad of characteristics.<sup>163</sup> Limiting the marketing of embryos to the already existing traits of the gamete providers prevents commodification of the resulting embryo and addresses the concerns of eugenics as well. Otherwise, one can envision classes of embryos based on gender, eye color, predicted susceptibility to disease, and approximate height and weight. This section reflects these concerns and finds support in ASRM's position against the use of pre-implantation genetic diagnosis ("PGD").<sup>164</sup> Finally, this section reflects that although current law treats embryos similar to property, they are also entitled to special respect.<sup>165</sup>

The Model Act intentionally avoids one issue better left to regulation by existing frameworks or industry standards. Embryo banking creates a unique situation where a single batch of embryos can be shared by multiple individuals.<sup>166</sup> These genetic siblings could potentially meet in the future and attempt to reproduce without knowing their genetic background. This concept of donor consanguinity is more concerning with regards to embryo banking because the two individuals are whole-blood siblings rather than half-blood siblings created from traditional ART services.<sup>167</sup> Sperm banks typically monitor the success rates of their donor sperm and place limits on how many successful pregnancies will be allowed per donor.<sup>168</sup> Rather than place an arbitrary number in the proposed

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<sup>163</sup> See *supra* note 32.

<sup>164</sup> American Society of Reproductive Medicine, *Sex Selection and Pre-Implantation Genetic Diagnosis*, 72 FERTILITY AND STERILITY 595, 598 (1999) (stating that PGD, which can be used to test for many conditions in a fertilized embryo (including gender), should only be used when a patient is undergoing in vitro fertilization and should only be used to diagnose the health of the embryo when there is a history of a genetic condition with gamete providers).

<sup>165</sup> *Davis*, 842 S.W.2d at 597.

<sup>166</sup> Stein, *supra* note 16.

<sup>167</sup> Consanguinity is defined as "[t]he relationship of persons of the same blood or origin." BLACK'S LAW DICTIONARY 322 (8th ed. 2004).

<sup>168</sup> See Cryobank.com, *Vial/Offspring Limits*, <http://www.cryobank.com/volimits.cfm?page=12&sub=194> (showing that the California Cryobank limits the number of successful pregnancies per sperm donor to twenty to thirty worldwide).

Model Act, this author recommends that an industry group, such as ASRM, should perform a study to determine what the acceptable number of offspring should be for embryo banking resulting in whole-blood siblings.<sup>169</sup>

### C. Texas H.B. 1703

On February 20, 2007, state representative Charlie Howard introduced H.B. 1703 into the Texas legislature.<sup>170</sup> According to the bill analysis, the bill responds directly to the Abraham Center and seeks to address the “business of creating and selling ‘designer babies.’”<sup>171</sup> H.B. 1703, if enacted as written, would amend the Texas Family Code so that current adoption laws would be applicable to the adoption of a human embryo.<sup>172</sup> Under the proposed legislation, unless there is a genetic tie to the embryo, a court order is required prior to transfer of the embryo for implantation.<sup>173</sup> Furthermore, the bill defines a human embryo as “a genetically complete living organism of the species *Homo sapien* [sic], from the single-cell zygote stage to eight weeks’ development.”<sup>174</sup> The bill also defines “embryo trafficking” as “creating a human embryo using in vitro fertilization for the purpose of selling, buying, or transferring for valuable consideration the human embryo to a person who is not a genetic parent of the embryo or the spouse of the genetic parent.”<sup>175</sup> Embryo trafficking carries the penalty of a Class A misdemeanor.<sup>176</sup>

If passed as written, H.B. 1703 would significantly impact the ability of an individual (or couple) seeking the services of an embryo bank. The language of the bill attempts to apply the procedures of adoption in the traditional sense to the world of ART. Indeed, the bill

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<sup>169</sup> ASRM routinely submits reports to the ART community in the form of ethics reports. See Ethical Considerations of Assisted Reproductive Technologies, <http://www.asrm.org/Media/Ethics/ethicsmain.html>.

<sup>170</sup> Tex. H.B. 1703, 80th Leg., R.S. (2007).

<sup>171</sup> HOUSE COMM. ON STATE AFFAIRS, BILL ANALYSIS, Tex. H.B. 1703, 80th Leg., R.S. (2007).

<sup>172</sup> *Id.*

<sup>173</sup> *Id.*

<sup>174</sup> *Id.*

<sup>175</sup> *Id.*

<sup>176</sup> Class A misdemeanors can include a fine of up to \$4000, a jail sentence of up to one year, or both. TEX. PEN. CODE ANN. § 12.21 (Vernon 1994).

states that the court may grant the adoption if the court determines that the adoption is in "the best interests of the embryo."<sup>177</sup>

No jurisdictions other than Louisiana consider embryos legal persons.<sup>178</sup> As the *Davis* court recognized, to do so would dismantle the entire ART system.<sup>179</sup> In this author's opinion, H.B. 1703 not only addresses embryo banking but is also part of a larger agenda to raise embryos to the status of individuals. Although embryo banking is not without risks, the elevation of embryos to the status of individuals is an unnecessary and ill-advised solution.<sup>180</sup> The primary risks of embryo banking, eugenics, and commodification can better be addressed by the proposed Model Act without resorting to an embryo classification that threatens to disenfranchise the millions of Americans that seek the universal dream of having a family.

## VII. CONCLUSION

At first glance, embryo banking appears to lead the ART industry down the dark paths of commodification and eugenics. A closer inquiry, however, shows that embryo banking offers more choices, lower costs, and better pregnancy success rates for the infertile, which represent a significant portion of the U.S. population. Furthermore, embryo banking simply combines the already existing possibility of separately choosing for specific traits in a sperm donor or egg donor. This paper proposes that following the guidelines recommended in the Model Act allows states to directly remove the commodification and eugenics concerns.

On a final note, this author believes that a key factor leading to the concept of embryo banking is the current inability of long term egg storage.<sup>181</sup> Once egg storage technology improves, it seems likely that fertility centers would prefer to store a varied selection of both

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<sup>177</sup> Tex. H.B. 1703, *supra* note 170.

<sup>178</sup> LA. REV. STAT. ANN. §9:123, *supra* note 46. See also *supra* note 49 and accompanying text.

<sup>179</sup> *Davis*, 842 S.W.2d at 597.

<sup>180</sup> See Crockin, *supra* note 18 ("To force adoption frameworks onto frozen embryos as a matter of law and policy would significantly reduce those choices, while elevating one religious doctrine - that of the Christian right - over others").

<sup>181</sup> Fairfax Cyrobank, *supra* note 10 and accompanying text.

eggs and sperm and await a specific combination request from the infertile patient rather than prepare batches of embryos ahead of time. This technological advance has the potential to make the current controversy over embryo banking moot. In the interim, however, the Model Act seeks to maintain the ART industry while showing embryos the special respect they deserve.