# FROM PIPETTE TO CRADLE,

## FROM IMMORTALITY TO EXTINCTION

by

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## INTRODUCTION

[1] Are the assisted reproductive technologies ("ART") actually advancing the quest of the human race, or plotting a course of destruction? Interestingly, the acronym by which this science has become known does, quite literally, represent ART – the ART of creating babies. The "A" can stand for assisted, alternative, or artificial. One can see an interesting evolution from the original concept created to "assist" reproduction, to "alternative" reproduction representing choice, selection, decision and preference, to the current reality of "artificial," completely replacing sexual reproduction. Where does that leave us? This paper serves merely as an attempt to awaken the awareness of the reader to the quandary in which ART has placed the human race. Unfortunately, I propose no direct solutions - that would be beyond the scope of this paper. Instead, I hope that exposing the legal, ethical, and religious dilemmas surrounding ART will ignite a movement toward facing and addressing these issues.

[2] ART appeared on its face to be a mechanism whereby human suffering could be reduced, specifically, the suffering of infertile couples desiring biological children. The number of couples affected by infertility is, at minimum 14-15%<sup>1</sup> worldwide, and a Senate Committee determined that 5 million families in 1990 were affected at an expense

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<sup>&</sup>lt;sup>1</sup> Michelle L. Brenwald & Kay Redeker, A Primer on Posthumous Conception and Related Issues of Assisted Reproduction, 38 WASHBURN L.J. 599, 604 (1999); Stacey Sutton, The Real Sexual Revolution: Posthumously Conceived Children, 73 ST. JOHN'S L. REV. 857, 885 n.185 (1999).

of over one billion dollars.<sup>2</sup> Recognizing the staggering statistics and the reality that "[a]ssisted reproduction has become a two billion dollar a year fertility industry,"<sup>3</sup> one can understand the explosion in access to and availability of this technology. In the wake of this explosion lie the consequences. The consequences encompass the circular gamut extending from the yet unborn to the already dead and including both the imaginable and the unimaginable. These technologies have ultimately led to stem cell research and cloning, neither of which will be addressed in any detail in this discourse.

[3] ART refers to all forms of noncoital (non-intercourse) reproduction. Some examples are: artificial insemination ("AI"), intracytoplasmic sperm injection ("ICSI"), in vitro fertilization ("IVF"), gamete or zygote intrafallopian transfer ("GIFT"/"ZIFT"), surrogacy, and posthumous conception ("PHC"). For the most part, all "ART therapies... are complex, expensive and have their own inherent risks."<sup>4</sup> All of these methods can either involve genetic material from one or both members of the couple or from donors. The courts are now plagued with suits resulting from all of these methods.<sup>5</sup> Why?

[4] While viewing ART from within its theoretically intended and traditional context, one may not naturally and intuitively predict the bizarre conflicts and issues which have emerged from its use. What could possibly be the problem in letting an infertile married

<sup>&</sup>lt;sup>2</sup> Robert L. Stenger, *The Law and Assisted Reproduction in the United Kingdom and United States*, 9 J. L. & HEALTH 135, 136 (1995).

<sup>&</sup>lt;sup>3</sup> Brenwald & Redeker, *supra* note 1, at 623.

<sup>&</sup>lt;sup>4</sup> Michael R. Soules, *Commentary: Posthumous Harvesting of Gamete's – A Physician's Perspective*, 27 J. L. MED. & ETHICS 362, 363 (1999).

<sup>&</sup>lt;sup>5</sup> For an analysis of several court cases dealing with these technologies, *see infra* notes 52-140 and accompanying text.

couple utilize donor sperm for artificial insemination? An important component that must be factored into the equation in assessing this question, and one that yields infinite answers, is that of human nature. Human nature is driving the explosion in ART and thus human nature lies at the heart of the consequences of that explosion. Unfortunately, it cannot be removed from the analytical equation and it must not be ignored.

[5] This paper will discuss the legal, religious and ethical concerns raised by the application of this technology. Section I begins with a brief introduction to some of the medical procedures involved. Section II examines the legal evolution and state of affairs in this arena. In Section III an array of various religious perspectives regarding ART will be considered. Ethical questions and considerations will be contemplated in Section IV. Finally, Section V concludes the discussion with questions addressing the ultimate issue: what now? None of the Sections is intended to be exhaustive in nature, but rather illustrative of the concepts breeding consternation.

#### I. COMMON FORMS OF ART

#### A. Artificial Insemination

[6] AI is the oldest and most widely used form of ART. Successful AI is documented as far back as the fourteenth century where the Arabs conducted it on horses.<sup>6</sup> In humans, it is primarily utilized in cases of male infertility, though it may be used for other reasons (*e.g.*, to prevent passage of a genetic disease, single woman desiring parenthood, and lesbian couples).<sup>7</sup> It is a relatively simple technique that involves

<sup>&</sup>lt;sup>6</sup> Sheri Gilbert, *Fatherhood from the Grave: An Analysis of Postmortem Insemination*, 22 HOFSTRA L. REV. 521, 524 (1993).

<sup>&</sup>lt;sup>7</sup> *Id.* at 548 n.139.

injection of a sperm sample into the female reproductive tract to cause pregnancy.<sup>8</sup> There are three sources of sperm for insemination; sperm from a donor ("AID"), sperm from the husband ("AIH"), or a combination of donor plus husband's sperm ("AIC"). The injected sperm is deposited near the cervix, but outside the uterus. The sperm can be either fresh or frozen.<sup>9</sup>

[7] AI is both simple and inexpensive and may actually be achieved without the assistance of a physician.<sup>10</sup> However, a genuine risk remains regarding the transmission of communicable or inheritable diseases. A variant of AI is a process known as intrauterine insemination ("IUI"), where the sperm is deposited inside the uterus.<sup>11</sup>

B. Intracytoplasmic Sperm Injection

[8] ICSI involves selecting a specific sperm for injection directly into an egg thereby instantly achieving fertilization. It is most commonly employed when the male's sperm is of abnormal morphology, poor mobility, or insufficient in number, resulting in the inability to accomplish fertilization in a natural way.<sup>12</sup> The resulting fertilized egg is then either introduced into the woman's uterus or the fallopian tube. This creates a way for defective sperm to fertilize an egg.<sup>13</sup>

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

<sup>&</sup>lt;sup>8</sup> Amy L. Komoroski, *After* Woodard v. Commissioner of Social Services: *Where Do Posthumously Conceived Children Stand in the Line of Descent?*, 11 B.U. PUB. INT. L.J. 297, 302 n.35 (2002).

<sup>&</sup>lt;sup>9</sup> Karin Mika & Bonnie Hurst, One Way to Be Born? Legislative Inaction and the Posthumous Child, 79 MARQ. L. REV. 993, 996 (1996).

<sup>&</sup>lt;sup>10</sup> See Brenwald & Redeker, supra note 1, at 612.

<sup>&</sup>lt;sup>11</sup> Komoroski, *supra* note 8.

<sup>&</sup>lt;sup>12</sup> Sutton, *supra* note 1, at 867

### C. In Vitro Fertilization

[9] IVF is achieved in a petri dish where the eggs and sperm are mixed.<sup>14</sup> Multiple fertilizations may occur since more than one egg and more than one sperm are placed together.<sup>15</sup> Once fertilization occurs within the petri dish, the pre-embyros begin development. When the pre-embryos reach the eight-cell stage, one or more of them are introduced into the woman's uterus.<sup>16</sup> In order to increase success, several pre-embryos are introduced into the uterus.<sup>17</sup> This often results in the development of multiple embryos which leads to multiple pregnancies and births unless selective abortion is performed.<sup>18</sup> Further, the technology is now available for pre-implantation genetic diagnosis ("PGD") of these embryos, allowing for gender and other genetic selections prior to insertion of the pre-embryo.<sup>19</sup>

## D. Gamete or Zygote Intrafallopian Transfer

[10] These two procedures involve placement of the genetic material directly inside the fallopian tube.<sup>20</sup> The fallopian tube is the normal anatomic location of fertilization in

<sup>&</sup>lt;sup>14</sup> *Id.* at 868.

<sup>&</sup>lt;sup>15</sup> *Id*. at 865

<sup>&</sup>lt;sup>16</sup> *Id*.

<sup>&</sup>lt;sup>17</sup> *Id.* at 866

<sup>&</sup>lt;sup>18</sup> Sutton, *supra* note 1, at 865.

<sup>&</sup>lt;sup>19</sup> See Paul Lauritzen, *Richer Views of the Ethics of Reproduction*, 32 THE HASTINGS CENTER REPORT 43 (Sept/Oct 2002).

<sup>&</sup>lt;sup>20</sup> Sutton, *supra* note 1, at 868.

the human body.<sup>21</sup> A gamete refers to the male or female reproductive cell before fertilization - the egg or the sperm.<sup>22</sup> GIFT is the process where an egg and sperm are inserted together inside the fallopian tube where fertilization then follows naturally.<sup>23</sup> In GIFT, fertilization is intended to occur *inside* the body.<sup>24</sup> However, with ZIFT, the fertilization takes place *outside* the body.<sup>25</sup> A zygote is an egg that has been fertilized by a sperm.<sup>26</sup> With ZIFT, an egg is fertilized in a petri dish, then that zygote (fertilized egg) is introduced into the fallopian tube where the process can continue.<sup>27</sup>

## E. Surrogacy

[11] The hallmark of this form of assisted reproduction is that a woman bears a child for someone else. This woman is called the surrogate mother. There are two forms of surrogacy, partial and complete. In "partial" surrogacy, the surrogate mother supplies the egg and the sperm is supplied by the soliciting couple.<sup>28</sup> In "complete" or "full" surrogacy, the surrogate mother has no genetic connection to the fetus.<sup>29</sup> This is also

 $^{21}$  *Id*.

<sup>23</sup> Sutton, *supra* note 1, at 868.

<sup>24</sup> Id.

<sup>25</sup> *Id.* at 868 n.67.

<sup>&</sup>lt;sup>22</sup> AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (4th ed. 2004) (2000), *available at* <u>http://www.answers.com/gamete&r=67</u> (last visited November 20, 2005).

<sup>&</sup>lt;sup>26</sup> AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (4th ed. 2004) (2000), *available at* <u>http://www.answers.com/zygote</u> (last visited November 20, 2005).

<sup>&</sup>lt;sup>27</sup> See Sutton, *supra* note 1, at 868 n.67.

<sup>&</sup>lt;sup>28</sup> *Id.* at 871-872 n.90.

<sup>&</sup>lt;sup>29</sup> *Id.* at 871 n.88.

sometimes referred to as "gestational" surrogacy since the surrogate mother only gestates the fetus.

[12] It is possible for a baby born via surrogacy to have *six* different parents; the genetic mother and father; the social rearing mother and father; and the birth mother (surrogate) and, if she is married, her husband could be considered a father.<sup>30</sup>

## F. Posthumous Conception

[13] PHC must be distinguished from posthumous birth/child. The distinction between the two terms can be legally dispositive.<sup>31</sup> Posthumous births have been around since time immemorial.<sup>32</sup> They are births resulting from conceptions that occur *prior* to the death of the father or mother, but are not born until after the death of the father or mother.<sup>33</sup> However, PHC refers to conceptions that take place *after* the death of one or both biological parents.<sup>34</sup> PHC may be accomplished by using genetic material stored by either one, or both, of the parents prior to their death or by post-mortem gamete retrieval, where the genetic material is removed after death.<sup>35</sup>

<sup>34</sup> *Id*. at 402.

<sup>35</sup> *Id*.

<sup>&</sup>lt;sup>30</sup> See id. at 866 n.56; Brenwald & Redeker, *supra* note 1, at 646 n.230 (discussing a 1997 California trial court's pronouncement of an ART child as "parentless" because six people were involved in the conception).

<sup>&</sup>lt;sup>31</sup> See Brenwald & Redeker, supra note 1, at 600 n.2.

<sup>&</sup>lt;sup>32</sup> Soules, *supra* note 4, at 362.

<sup>&</sup>lt;sup>33</sup> Evelyne Shuster, *The Posthumous Gift of Life: The World According to Kane*, 15 J. CONTEMP. HEALTH L. & POL'Y 401, 416 (1999) ("Decisions to sustain a dead pregnant woman for the sake of her fetus have been ethically justified on utilitarian grounds.").

[14] Retrieval of viable sperm after death was first described in 1980 by C. M.

Rotham.<sup>36</sup> It is also now possible to preserve a woman's eggs and ovarian tissue shortly after death or during a persistent vegetative state<sup>37</sup> and to harvest "eggs from aborted females who were never born."<sup>38</sup>

[15] AI, IVF, and other forms of ART, "have made the creation of posthumously conceived children a widespread social reality."<sup>39</sup> In fact, IVF combined with surrogacy makes possible the birth of a child after the death of *both* its genetic parents.

#### G. Cryogenic Preservation

[16] Cryogenic preservation is the technology that allows for the freezing and preservation of biological materials.<sup>40</sup> The gametes are placed in a protective solution and frozen according to a specific protocol, then stored in liquid nitrogen at -196° C (-328° F).<sup>41</sup> The exact duration of storage without damage is unknown for eggs, but it is believed that egg tissue "should survive indefinitely in liquid nitrogen."<sup>42</sup> Sperm cryogenically preserved can remain viable up to ten years,<sup>43</sup> in fact it has been posited that spermatological stem cells may be preserved for "more than one hundred years after

<sup>38</sup> Brenwald & Redeker, *supra* note 1, at 601.

<sup>39</sup> Komoroski, *supra* note 8, at 315.

<sup>40</sup> Sutton, *supra* note 1, at 869.

<sup>41</sup> Soules, *supra* note 4, at 363; Mika & Hurst, *supra* note 8, at 996.

<sup>42</sup> Soules, *supra* note 4, at 363.

<sup>43</sup> Mika & Hurst, *supra* note 9, at 996.

<sup>&</sup>lt;sup>36</sup> R.D. Orr & M Siegler, *Is Posthumous Semen Retrieval Ethically Permissible?*, 28 J. MED. ETHICS 299 (Oct. 2002).

<sup>&</sup>lt;sup>37</sup> Soules, *supra* note 4, at 363.

the death of the genetic parent."<sup>44</sup> The embryo has proven to be extremely durable genetic material throughout the process of freezing, storage and thawing, and is reported viable after *600 years* of storage!<sup>45</sup>

[17] "[T]he preservation of all human gametes, including eggs, sperm, and embryos, is possible and harvesting could occur after death."<sup>46</sup> It is this technology, cryopreservation and storage, which allows for the use of one's human genetic material for reproduction at virtually any point in time (with gestation and rearing occurring by persons never known to the genetic parents).

## **II. LEGAL EVOLUTION**

[18] Unfortunately, the law has not evolved synchronously with the technology. ART "is an industry largely without federal or state regulation"<sup>47</sup> and "[t]he need for legal restriction and guidance in this area is repeatedly asserted."<sup>48</sup> It has been further noted that "reproductive technologies far outpace judicial and legislative consideration of their implications."<sup>49</sup>

[19] What accounts for this current and critical predicament? Perhaps it is the utter and overwhelming complexity of this controversial and deeply sensitive topic. The potential issues are infinite and command a query of the precise essence of life itself.

<sup>&</sup>lt;sup>44</sup> Komoroski, *supra* note 8, at 301.

<sup>&</sup>lt;sup>45</sup> Sutton, *supra* note 1, at 869 n.74; Mika & Hurst, *supra* note 9, at 996.

<sup>&</sup>lt;sup>46</sup> Soules, *supra* note 4. at 363.

<sup>&</sup>lt;sup>47</sup> Brenwald & Redeker, *supra* note 1, at 623.

<sup>&</sup>lt;sup>48</sup> Sutton, *supra* note 1, at 858 n.7.

<sup>&</sup>lt;sup>49</sup> Komoroski, *supra* note 8, at 316.

The challenge to lawmakers now is one of immediacy in the face of this "runaway" technology which, at the very least, leads to virtual immortality, while oxymoronically leading to extinction. Thus, I have coined ART as a technology encompassing the potential for "immortal extinction" of the human race. It is a technology that knows no borders, neither geographic nor scientific. Ultimately, it must be controlled globally.

[20] Since this section presents only a cursory introduction to legal aspects surrounding ART, a continued prudent recognition of the colossal impact of these technologies is paramount. The judiciary dockets are increasing with cases regarding ART because legislation is scant on this topic. In *Woodward v. Commissioner of Social Security*, the court "aptly observed, '[t]he questions present in this case cry out for lengthy, careful examination outside the adversary process, which can only address the specific circumstances of each controversy . . . itself."<sup>50</sup> Let us begin with historical prelude, followed by a limited review of a few landmark cases illustrating the depth of issues and the diversity of approaches in this area. Many of the cases involve posthumous conception "because it encompasses the whole realm of artificial reproduction and related issues."<sup>51</sup> Through these cases, one can envision the plethora of potential quandaries resulting from ART.

A. Case Law Evolution

[21] For over 80 years cases have arisen from the use of ART. In 1921, a Canadian court determined that AID constituted adultery by both the physician and the woman

<sup>&</sup>lt;sup>50</sup> Christie E. Kirk, *Assisted Reproduction: Children Conceived Posthumously Entitled to Inheritance Rights*, 30 J. L. MED. & ETHICS 109, 110 (2002) (quoting Woodward v. Comm'r of Soc. Sec., 760 N.E.2d 257, 272 (Mass. 2002)).

<sup>&</sup>lt;sup>51</sup> Brenwald & Redeker, *supra* note 1, at 601.

undergoing the donor insemination.<sup>52</sup> The American courts followed suit and, in a 1956 decision, an Illinois appellate court declared that a child born via AID "was illegitimate and therefore the husband was not the legal parent."<sup>53</sup> In the United States, that perspective prevailed until 1968 when the Supreme Court of California became the first to refute the previous mindset.<sup>54</sup> The significance of the court's holding is that "a child conceived by artificial insemination during a marriage was not the product of an adulterous relationship and the child was presumed legitimate."<sup>55</sup>

<sup>[22]</sup> "The first case to address the fate of posthumously conceived children was a 1984 French case, *Parpalaix v. CECOS*."<sup>56</sup> The case involves a 24 year old man diagnosed with testicular cancer and his live-in girlfriend.<sup>57</sup> In 1981 he made one sperm deposit at a government research center and sperm bank in France ("CECOS") prior to undergoing chemotherapy.<sup>58</sup> He left no express instructions for disposition of the sperm deposit upon his death.<sup>59</sup> The couple married in the hospital two days prior to the young man's

<sup>57</sup> Mika & Hurst, *supra* note 9, at 1008.

<sup>58</sup> *Id.* at 1009.

<sup>59</sup> *Id*.

<sup>&</sup>lt;sup>52</sup> See Mika & Hurst, *supra* note 9, at 997 n.35 (discussing Orford v.Orford, 58 D.L.R. 251 (1921)).

<sup>&</sup>lt;sup>53</sup> *Id.* at 998 (referring to Doornbos v. Doornbos, 139 N.E.2d 844 (III. App. Ct. 1956)).

<sup>&</sup>lt;sup>54</sup> See Strnad v. Strnad, 78 N.Y.S.2d 390 (N.Y. Sup. Ct. 1948); Gursky v. Gursky, 242 N.Y.S.2d 406 (N.Y. Sup. Ct. 1963).

<sup>&</sup>lt;sup>55</sup> Mika & Hurst, *supra* note 9, at 999 (citing People v. Sorenson, 437 P.2d 495, 498 (Cal 1968)).

<sup>&</sup>lt;sup>56</sup> Sutton, *supra* note 1, 894.

death, on December 25, 1983.<sup>60</sup> Following his death, the widow requested his sperm for AI which the sperm bank denied.<sup>61</sup> The court addressed the issue of a woman's right to use the sperm of a decedent. The court rejected the property argument asserted by CECOS, finding "it 'impossible to characterize human sperm as movable, inheritable property within the contemplation of the French legislative scheme"<sup>62</sup> and refused to apply contract principles.<sup>63</sup> Instead, "the court determined sperm to be 'the seed of life... tied to the fundamental liberty of a human being to conceive or not to conceive"<sup>64</sup> The resolution rested in determining the intent of the donor.<sup>65</sup> The court found the testimony of the wife and parents to be determinative of the decedent's unequivocal intent to have his wife bear his child and awarded the sperm to her.<sup>66</sup>

[23] In 1992, the Tennessee Supreme Court in *Davis v. Davis* ruled on the disposition of seven frozen embryos from a joint IVF effort following a couple's divorce.<sup>67</sup> The couple was not asked to sign consent forms and there was no discussion or agreement

<sup>65</sup> *Id*.

<sup>66</sup> Id.

<sup>&</sup>lt;sup>60</sup> Id.

<sup>&</sup>lt;sup>61</sup> *Id*.

<sup>&</sup>lt;sup>62</sup> Komoroski, *supra* note 8, at 304 (quoting Donald E. Shapiro & Benedene Sonnenblick, *The Widow and the Sperm: The Law of Post-Mortem Insemination*, 1 J.L. & HEALTH 229, 232 (1995)).

<sup>&</sup>lt;sup>63</sup> Sutton, *supra* note 1, at 895 n.241; Mika & Hurst, *supra* note 9, at 1011.

<sup>&</sup>lt;sup>64</sup> Komoroski, *supra* note 8, at 304 (quoting Shapiro & Sonnenlick, 1 J.L. & HEALTH at 232).

<sup>&</sup>lt;sup>67</sup> Davis v. Davis, 842 S.W.2d 588 (Tenn. 1992).

concerning the disposition of the embryos.<sup>68</sup> Furthermore, there lacked statutory authority or case law to guide the decision.<sup>69</sup> The court concluded that embryos are neither "'persons' [nor] 'property,' but occupy an interim category that entitles them to special respect because of their potential for human life."<sup>70</sup> The court did not decide on the basis of implied contract or reliance doctrine, but rather on the basis of procreational autonomy, weighing the relative interests of the parties.<sup>71</sup> Mr. Davis's "interest in *avoiding* parenthood"<sup>72</sup> was held to be superior.<sup>73</sup> This case demonstrates that the right to privacy does not protect a general right to procreate if there is conflict with or opposition by another person's right not to procreate.<sup>74</sup>

[24] Conversely, a New York court in 1995 came to the opposite conclusion. *Kass v. Kass* involved cryogenically preserved embryos created from a couple's gametes when they attempted to conceive a child while married.<sup>75</sup> Five years after their divorce

<sup>70</sup> *Id.* at 597.

<sup>&</sup>lt;sup>68</sup> *Id.* at 592 n.9.

<sup>&</sup>lt;sup>69</sup> *Id.* at 590.

<sup>&</sup>lt;sup>71</sup> *Id*.

 $<sup>^{72}</sup>$  *Id.* at 604 (emphasis added).

<sup>&</sup>lt;sup>73</sup> Brenwald & Redeker, *supra* note 1, at 644.

<sup>&</sup>lt;sup>74</sup> Radhika Rao, *Reconceiving Privacy: Relationships and Reproductive Technology*, 45 UCLA L. REV. 1077, 1085 (1998).

<sup>&</sup>lt;sup>75</sup> Kass v. Kass, No. 19658-93, 1995 WL 110368 (N.Y. Sup. Ct. Jan. 19, 1995), *overruled by* Kass v. Kass, 663 N.Y.S.2d 581 (N.Y. App. Div. 1997), *aff'd*, 696 N.E.2d 174 (N.Y. 1998).

Maureen, at age forty, wanted the embryos, but Steven, age thirty-eight, did not want to have children with his ex-wife.<sup>76</sup>

The court "explained that a husband has no right to procreate or avoid procreation following an *in vivo* fertilization because he cannot compel or prevent an abortion: "The simple fact... is that an *in vivo* husband's rights and control over the procreative process ends with ejaculation. From that moment... the fetus' fate rests with the mother to the exclusion of all others."<sup>77</sup>

[25] The trial court in *Kass*, before awarding the five frozen embryos to the genetic mother following divorce from the genetic father, reasoned that because no man has a right to procreate or not to procreate when conception takes place inside the human body, then he does not gain any additional rights when conception takes place outside of the body.<sup>78</sup> The *Kass* court denied the existence of a constitutional right to avoid procreation, stating "a right to avoid procreation" cannot logically survive the initial act of procreation . . . [otherwise] the right has been transformed from one founded in restraint into a right to take positive steps to terminate a potential human life."<sup>79</sup> However, on appeal the holding was reversed, but only for the fact that the couple had signed a consent form expressing their intent for this specific situation prior to the cryopreservation.<sup>80</sup>

<sup>79</sup> *Id*. at \*3.

<sup>&</sup>lt;sup>76</sup> Brenwald & Redeker, *supra* note 1, at 645 (citing Kass v. Kass, 696 N.E.2d 174 (N.Y. 1998)).

<sup>&</sup>lt;sup>77</sup> Rao, *supra* note 74, at 1087 (emphasis added) (citing *Kass*, 1995 WL 110368 at \*2).

<sup>&</sup>lt;sup>78</sup> *Kass*, 1995 WL 110368 at \*2.

<sup>&</sup>lt;sup>80</sup> Brenwald & Redeker, *supra* note 1, at 645 n.229 (citing Kass v. Kass, 673 N.Y.S2d 350, 357 (N.Y. 1998)).

[26] *Hecht v. Superior Court<sup>81</sup>* represents the landmark case in the United States addressing the legal categorization of sperm.<sup>82</sup> William Kane was a 48 year old attorney that planned to commit suicide.<sup>83</sup> Just weeks prior to committing suicide, Kane deposited 15 vials of sperm and signed an agreement to release the semen to the executor of his estate.<sup>84</sup> He also executed a will naming his girlfriend Deborah Hecht, whom he had lived with for five years, as executor and bequeathed his sperm to her.<sup>85</sup> Kane wrote his two adult children, from a previous marriage, a letter explaining his hope for Deborah to bear his child posthumously and expressed that the letter was also to "my posthumous offspring."<sup>86</sup> His adult children argued it was against public policy to let an unmarried woman undergo AI.<sup>87</sup> The appellate court held that the disposition of the decedent's sperm is not governed by a settlement agreement arising out of a contested will.<sup>88</sup> The court did say that Kane had a limited property interest though the sperm was not really governed by the law of personal property.<sup>89</sup> Instead, the court ultimately applied contract law and looked to the issue of intent. Kane had created multiple written documents

- <sup>84</sup> *Id*.
- <sup>85</sup> Id.
- <sup>86</sup> *Id.* at 277.

<sup>88</sup> *Id.* at 284.

<sup>&</sup>lt;sup>81</sup> Hecht v. Superior Court, 20 Cal. Rptr. 2d 275 (Cal. Ct. App. 1993).

<sup>&</sup>lt;sup>82</sup> Komoroski, *supra* note 8, at 304.

<sup>&</sup>lt;sup>83</sup> *Hecht*, 20 Cal. Rptr. 2d at 276

<sup>&</sup>lt;sup>87</sup> *Id.* at 278.

<sup>&</sup>lt;sup>89</sup> Hecht, 20 Cal. Rptr. 2d at 283.

containing his express intent to leave his sperm to Deborah Hecht and the court felt his intentions were clear.<sup>90</sup> The appellate court held that " 'no other person or entity has an interest sufficient to permit interference with [Hecht and decedent's] decision . . . ."<sup>91</sup> The California Court of Appeal "ruled that sperm depositors may determine the disposition of their gametes after death."<sup>92</sup>

[27] Next was a California case regarding a single young woman, age 28, with leukemia.<sup>93</sup> She intentionally cryopreserved embryos created from her own eggs and donor sperm for future fertility.<sup>94</sup> Apparently, she left no instructions for the disposition of the embryos.<sup>95</sup> After she died, her parents "attempted to create their own grandchildren,"<sup>96</sup> "claiming they had a right to be grandparents, and their deceased daughter had a right to be a mother."<sup>97</sup> They hired a surrogate into whom the embryos were implanted, but the surrogate miscarried.<sup>98</sup> The question remains, "[w]ho should decide the disposition of these "orphaned" or "abandoned" embryos?"<sup>99</sup>

<sup>&</sup>lt;sup>90</sup> Shuster, *supra* note 33, at 408.

<sup>&</sup>lt;sup>91</sup> Hecht v. Superior Court, 59 Cal. Rptr. 2d 222, 227 (Cal. Ct. App. 1996) (quoting *Hecht*, 20 Cal. Rptr. 2d at 275).

<sup>&</sup>lt;sup>92</sup> Id.

<sup>&</sup>lt;sup>93</sup> *Id.* at 403 n.9.

<sup>&</sup>lt;sup>94</sup> Evelyne Shuster, *Dead Parents Cannot Parent*, CHICAGO TRIBUNE, Jan. 1, 1998, at 21.
<sup>95</sup> Id.

<sup>&</sup>lt;sup>96</sup> Brenwald & Redeker, *supra* note 1, at 601 n.4.

<sup>&</sup>lt;sup>97</sup> Shuster, *supra* note 33, at 403 n.9.

<sup>&</sup>lt;sup>98</sup> *Id.*; Brenwald & Redeker, *supra* note 1, at 601 n.4.

<sup>&</sup>lt;sup>99</sup> Shuster, *supra* note 33, at 403 n.9.

[28] In 1993, Hart v. Shalala first raised the question of the rights of posthumously conceived children at the federal level.<sup>100</sup> Four years after his marriage Nancy, Edward was diagnosed with lymphoma.<sup>101</sup> Prior to undergoing chemotherapy, he deposited sperm and assigned all ownership interest to his wife in a form provided by the storage clinic, instructing her to either use or dispose of the sperm if he was incapacitated or dead.<sup>102</sup> He died June 14, 1990, and three months later Nancy underwent GIFT and Judith was conceived.<sup>103</sup> Judith was born June 4, 1991, only 13 months after the death of her father.<sup>104</sup> Nancy applied for social security benefits and her claim was denied by the Social Security Administration (SSA). Judith was not considered one of Edward's heirs since she was not born within 300 days of Edwards's death and thus was considered illegitimate.<sup>105</sup> Further, Nancy could not prove dependency or entitlement to inheritance. [29] Historically, both common law and the Uniform Probate Code require that a child be conceived prior to the father's death in order to inherit.<sup>106</sup> "Surprisingly, in 1996, while the case was in the United States District Court for the Eastern District of Louisiana . . . [the] Social Security Commissioner . . . announced that survivor's benefits

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

 $^{102}$  *Id*.

<sup>103</sup> *Id.* at 305.

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

<sup>105</sup> Komoroski, *supra* note 8, at 305.

<sup>106</sup> See Sutton, supra note 1, at 915 nn.376, 378.

<sup>&</sup>lt;sup>100</sup> Komoroski, *supra* note 8, at 305 n.61 (referring to Hart v. Shalala, No. 94-3944 (E.D. La. March 18, 1996) (unpublished opinion)).

would be paid to Judith Hart upon return of the case from the court to the Social Security Administration."<sup>107</sup> The lawsuit was dismissed when the SSA Commissioner ordered the immediate payment of benefits to Judith Hart.<sup>108</sup> A news release was issued announcing this strictly case-specific resolution<sup>109</sup> and explaining that the policy issues raised by the case "should involve the executive and legislative branches, rather than the courts."<sup>110</sup>

[30] Across the ocean, a British court in 1997 was faced with the question of whether a woman should be given sperm taken from her dying husband to use posthumously.<sup>111</sup> Stephen was 30 and Diane was 28 when Stephen became ill with bacterial meningitis.<sup>112</sup> While Stephen was unconscious, in a coma and on life support, the physicians used "electro-ejaculation" to remove his sperm shortly before he died.<sup>113</sup> There was no evidence of Stephen's intention to have his wife conceive his child posthumously.<sup>114</sup> The court denied Diane the use of her husband's sperm and confirmed that, under British law, written consent is required for the collection of sperm and the use of gametes is banned

<sup>110</sup> Komoroski, *supra* note 8, at 306 (citing Press Release, Shirley S. Carter, Commissioner of Social Security (March 11, 1996) (on file with the author)).

<sup>&</sup>lt;sup>107</sup> Komoroski, *supra* note 8, at 306.

<sup>&</sup>lt;sup>108</sup> *Id.* at 305 n.61.

<sup>&</sup>lt;sup>109</sup> Brenwald & Redeker, *supra* note 1, at 640.

<sup>&</sup>lt;sup>111</sup> Sutton, *supra* note 1, at 899 n.276 (referring to *Ex Parte* Blood, 2 W.L.R. 807 (C.A. 1997)).

<sup>&</sup>lt;sup>112</sup> *Id.* at 899.

<sup>&</sup>lt;sup>113</sup> *Id.* at 900.

<sup>&</sup>lt;sup>114</sup> *Id*.

without that written consent.<sup>115</sup> Authorities also refused "to allow her to export the sperm to Belgium, where its use would not have been unlawful."<sup>116</sup> However, on appeal the court ruled that the right to free medical access could not be restricted. After a two year court battle, nearly four years after the death of Stephen, Diane had a baby posthumously.<sup>117</sup>

[31] Similar issues arose when a request was made to the University of Washington regarding the harvest of female gametes from a brain dead woman.<sup>118</sup> The request was made by a twenty-one year old woman whose nineteen year old sister was determined brain dead 12 hours after a motor vehicle accident.<sup>119</sup> The family withheld final consent for organ donation until the medical staff arranged to have the ovaries harvested and the eggs preserved.<sup>120</sup> The sister stated, "I want to keep a part of my sister so she will continue to live."<sup>121</sup>

[32] What about retrieving sperm from a person *already* dead? Pam and Manny Maresca were married less than three weeks when Manny was killed at the age of 22 in a

<sup>115</sup> Clare Dyer, *Government Reviews Law on "Posthumous Conceptions,"* 315 BRIT. MED. J. 831 (Oct. 4, 1997), *available at* <u>http://bmj.bmjjournals.com/cgi/content/full/315/7112/831/h</u>; Shuster, *supra* note 33, at 420 n.82.

<sup>116</sup> *Id*.

<sup>117</sup> Brenwald & Redeker, *supra* note 1, at 600.

<sup>118</sup> See Soules, supra note 4

<sup>119</sup> *Id.* at 362

 $^{120}$  *Id*.

<sup>121</sup> *Id*.

fatal motor vehicle accident.<sup>122</sup> In only the second procedure of its kind in the United States and the first in Florida,<sup>123</sup> Pam ordered Manny's sperm harvested from his dead body.<sup>124</sup> "The sperm bank director, Dwight Brunoehler, had no ambivalence about taking the sperm from a dead man for reproduction without his consent."<sup>125</sup> The medical professionals and Pam considered the sperm extraction "to be a property right controlled by the surviving next-of-kin."<sup>126</sup> Astonishingly, the reality reaches even further in this case. The mother-in-law stated "[w]e want this baby born at all costs . . . [and if] Pam decided not to help her dead husband live on . . . [then she] will use donor eggs [herself] and . . . carry *her son's* child."<sup>127</sup>

[33] Finally, we have the first published opinion by a state's highest court considering inheritance and posthumously conceived children.<sup>128</sup> *Woodward v. Commissioner of Social Security*<sup>129</sup> was initially a federal court case concerning a widow's request for survivor benefits for herself and the genetic children of the decedent.<sup>130</sup> Lauren's

<sup>125</sup> *Id.* at 411.

<sup>126</sup> Berry, *supra* note 122, at 249.

<sup>127</sup> Shuster, *supra* note 33, at 414 (emphasis added).

<sup>128</sup> Rebecca Dresser, *Protecting Posthumous Children*, 32 THE HASTINGS CENTER REPORT 8 (Nov/Dec 2002); Komoroski, *supra* note 8, at 307.

<sup>129</sup> Woodward v. Comm'r of Soc. Sec., 760 N.E.2d 257 (Mass. 2002).

<sup>130</sup> See Kirk, supra note 50.

<sup>&</sup>lt;sup>122</sup> Honorable Janet S. Berry, *Life After Death: Preservation of the Immortal Seed*, 72 TUL. L. REV. 231, 249 (1997).

<sup>&</sup>lt;sup>123</sup> *Id*.

<sup>&</sup>lt;sup>124</sup> Shuster, *supra* note 33, at 410 n.51.

husband was diagnosed with leukemia and he stored sperm prior to treatment.<sup>131</sup> Lauren gave birth to twin daughters conceived from the frozen sperm and born two years after their father's death.<sup>132</sup> The father was fully insured under social security law,<sup>133</sup> however "the Social Security Administration, an administrative law judge, and the agency's appeals board all denied the claims" for the dependents benefits Lauren sought for herself and her daughters.<sup>134</sup> No clear rules or directly applicable Massachusetts precedent existed,<sup>135</sup> so the federal court asked the Massachusetts highest court for guidance on the matter.<sup>136</sup> The Supreme Judicial Court of Massachusetts ruled that under limited circumstances, posthumously conceived children do have inheritance rights under state intestacy law.<sup>137</sup> The court held that such a finding is limited to circumstances where, as a threshold matter, a genetic relationship can be demonstrated between the child and the decedent.<sup>138</sup> Then, it must be established that the decedent both "affirmatively consented to posthumous conception and to the support of any resulting child[ren]."<sup>139</sup> The

<sup>132</sup> *Id*.

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

<sup>&</sup>lt;sup>131</sup> Woodward, 760 N.E.2d at 260.

<sup>&</sup>lt;sup>133</sup> *Id.* at 260, n.3.

<sup>&</sup>lt;sup>134</sup> *Id.* at 260-261.

<sup>&</sup>lt;sup>135</sup> Komoroski, *supra* note 8, at 298-299.

<sup>&</sup>lt;sup>136</sup> Woodward, 760 N.E.2d at 259; Dresser, supra note 129.

<sup>&</sup>lt;sup>137</sup> Woodward, 760 N.E.2d at 272; See also Kirk, supra note 50, at 109; See Dresser, supra note 127; Komoroski, supra note 8, at 307.

<sup>&</sup>lt;sup>138</sup> *Woodward*, 760 N.E.2d at 272

*Woodward* decision provides a concise framework and reasonably clear guidelines for legal and policy analysis of the issues.<sup>140</sup> The court joined a growing number of authorities and scholars calling for a more systematic approach to regulating new ways of having children and urged the legislature to develop "a comprehensive response reflecting the considered will of the people."<sup>141</sup>

[34] Judicial decisions are limited by the fact that they address only the rights and interests of the parties to the case, and published opinions do not always clearly represent all of the relevant facts on which the courts base their decisions.<sup>142</sup> Further, "there is little discussion of what would be in the best interest of the children involved."<sup>143</sup> Interestingly, "the Supreme Court has never expressly addressed whether the fundamental right to make procreative decisions includes the utilization of new reproductive methods."<sup>144</sup>

#### B. Legislative Enactment

[35] Legislative enactment is designed to reflect the will of the people and may be amended as citizens see fit, but to date remains very scant in the area of ART. Perhaps this dearth in legislation reflects the reality that "society lacks adequate structural mechanisms to asses the legal, cultural, religious, and ethical dimensions of what this

<sup>&</sup>lt;sup>140</sup> See Kirk, supra note 50; Komoroski, supra note 8, at 316.

<sup>&</sup>lt;sup>141</sup> Woodward, 760 N.E.2d at 272.

<sup>&</sup>lt;sup>142</sup> Brenwald & Redeker, *supra* note 1, at 646.

<sup>&</sup>lt;sup>143</sup> *Id.* at 652.

<sup>&</sup>lt;sup>144</sup> Mika & Hurst, *supra* note 9, at 1006.

progress [in reproductive technology] may mean to individuals, the family and society."<sup>145</sup>

[36] No state had legislation on AI until about the mid-1960s;<sup>146</sup> however, currently thirty-five states have implemented laws to regulate some aspect of the AI process.<sup>147</sup> In 1973, the National Conference on Uniform State Laws promulgated the Uniform Parentage Act ("UPA") to guide courts in determining the status of children born outside of traditional boundaries and address issues raised by parenthood.<sup>148</sup> In 1998, only eighteen states had adopted some version of the UPA.<sup>149</sup> Unfortunately, the guidelines provided by the UPA are limited because the act refers only to children conceived via AI.<sup>150</sup> Further, it apparently deals only with the rights of married couples.<sup>151</sup>

[37] Then "in 1988, the Uniform Status of Children of Assisted Conception Act

("USCACA") was introduced to remedy the . . . deficiencies of the UPA," but only two

<sup>146</sup> Mika & Hurst, *supra* note 9, at 1014.

<sup>147</sup> *Id.*; Rao, *supra* note 74, at 1120 n.237.

<sup>148</sup> See Sutton, supra note 1, at 909 n.349; Uniform Parentage Act Prefatory Note, 9B U.L.A. 287, 289 (1987) (acknowledging that the Act's main focus was to establish "substantive legal equality for all children regardless of the marital status of their parents")).

<sup>&</sup>lt;sup>145</sup> Komoroski, *supra* note 8, at 300 n.26 (citing Lori B. Andrews & Nanette Elster, *Regulating Reproductive Technologies*, 21 J. LEGAL MED. 35 (2000)).

<sup>&</sup>lt;sup>149</sup> See Sutton, supra note 1, at 909 n.350 (Alabama, California, Colorado, Delaware, Hawaii, Illinois, Kansas, Minnesota, Missouri, Montana, Nevada, New Jersey, New Mexico, North Dakota, Ohio, Rhode Island, Washington, Wyoming).

<sup>&</sup>lt;sup>150</sup> See Sutton, supra note 1, at 912 n.363.

<sup>&</sup>lt;sup>151</sup> Mika & Hurst, *supra* note 9, at 1016.

states had adopted it as of 1998.<sup>152</sup> The USCACA deals with the formation and enforcement of surrogacy contracts but, like the UPA, only contemplates the rights of parties in a marital context.<sup>153</sup> Section 4 of the Act denies legitimacy of posthumously conceived children and inheritance of benefits that may be received from the deceased parent.<sup>154</sup> In other words, it denies parentage to any child produced after the death of the donor of the genetic material. Therefore, the USCACA is limited and is felt to be "too restrictive to be upheld as constitutional."<sup>155</sup>

[38] Then there are the problems with probate,<sup>156</sup> the rule of perpetuities,<sup>157</sup> and the 120-hour rule.<sup>158</sup> Practically speaking, numerous issues need to be worked out in these areas in order to protect, at the very least, the children resulting from these technologies.

C. Regulations

<sup>155</sup> *Id.* at 908 n.348.

<sup>156</sup> *Id.* at 918 n.387 (referring to the fact that some ART technologies may freeze estates and tie up probate indefinitely preventing the orderly administration of estates).

<sup>157</sup> Brenwald & Redeker, *supra* note 1, at 639 n.185 ("[N]o interest in property is good unless it must vest, if at all, not later that 21 years, plus period of gestation, after some life or lives in being at time of creation of interest." Black's Law Dictionary 1331 (Bryan A. Garner ed., 6th ed. 1990)).

<sup>158</sup> Sutton, *supra* note 1, at 917 ("According to the 1990 Uniform Probate Code . . . if a proposed heir does not survive a decedent by at least 120 hours, the beneficiary is treated as having predeceased the decedent and is not an heir for purposes of intestate succession. This would mean that a posthumously conceived child could never take as an heir, but only as a devisee.") (citation omitted).

<sup>&</sup>lt;sup>152</sup> Sutton, *supra* note 1, at 913 n.365.

<sup>&</sup>lt;sup>153</sup> Mika & Hurst, *supra* note 9, at 1016.

<sup>&</sup>lt;sup>154</sup> Sutton, *supra* note 1, at 913 nn.368-69.

[39] Turning to the domain of regulations, once again we see the prevalent and continuing problematic theme of avoidance. Beginning at the level of the cryopreservation banks, the American Association of Tissue Banks ("AATB") establishes codes and procedures for the preservation of biological material, but it has no binding authority over the banks.<sup>159</sup> Therefore, the banks depend upon individual state regulations, but legislatures have failed to formally address the cryopreservation of sperm.<sup>160</sup> Regrettably even "traditional private quality control mechanisms,' such as insurance restrictions and malpractice suits, fail to apply to many ART procedures."<sup>161</sup> Federal law does require in vitro programs to furnish the Centers for Disease Control and Prevention ("CDC") with statistical data including success rates, and the FDA is establishing rules for screening of genetic material to prevent the transmission of communicable diseases.<sup>162</sup> Nonetheless, the atrocity remains that "ART procedures *are not covered* by the FDA approval process that governs drugs and other medical products [and] ART procedures *need not meet* FDA safety and efficacy standards before entering the clinical arena."<sup>163</sup> Further, "innovative approaches may be tried in the clinical setting without prior research ethics review."<sup>164</sup> Other alarming realities include: the inability to

<sup>162</sup> *Id*.

<sup>164</sup> *Id*.

<sup>&</sup>lt;sup>159</sup> See Warren Freedman, 24 Legal Issues in Biotechnology and Human Reproduction (1991).

 $<sup>^{160}</sup>$  *Id*.

<sup>&</sup>lt;sup>161</sup> Rebecca Dresser, *Regulating Assisted Production*, THE HASTINGS CENTER REPORT 26, 27 (Nov/Dec 2000).

<sup>&</sup>lt;sup>163</sup> *Id.* at 27 (emphasis added).

screen out unqualified practitioners because procedures are performed outside hospital settings; reimbursement requirements fail to promote quality care because insurance coverage for ART is quite limited; financial conflicts of interest can influence policy and practice decisions by practitioners, professional organizations and infertility clinics; and difficulties in proving negligence, causation, and harm, weaken the malpractice system's ability to stimulate quality care.<sup>165</sup> Sadly, regulation requires reasonable consensus on the content of rules and the controversy surrounding these issues may make that consensus elusive thereby impeding efforts to regulate ART.<sup>166</sup>

[40] Aware that legislation is severely lacking, that both the UPA and the USCACA fail to recognize the technological and judicial realities, and that regulations are meager at best, one can begin to understand the gravity of the predicament derived from and perpetuated by the persistent theme of "avoidance." Alas, the eventual stop for the multitude of cases arising as a result of this "avoidance" theme has been the Judiciary. Even the Judiciary is "reaching ad hoc divergent conclusions" utilizing differing justifications for their arguments. <sup>167</sup> The Judges are "*pleading* . . . for better guidance from lawmakers" in a frantic attempt to cease the current ad hoc approach to this ominous situation. <sup>168</sup>

## **III. RELIGIOUS PERSPECTIVES**

<sup>165</sup> *Id*.

<sup>166</sup> *Id*.

<sup>&</sup>lt;sup>167</sup> Brenwald & Redeker, *supra* note 1, at 638.

<sup>&</sup>lt;sup>168</sup> *Id.* at 646 (emphasis added) (quoting Ann Davis, *High-Tech Births Spawn Legal Riddles*, WALL STREET JOURNAL, Jan. 26, 1998, at B1.).

[41] "The vast majority of people in our society do believe in God."<sup>169</sup> It is therefore "inevitable that the law and the law making process will be influenced by the church and religious beliefs."<sup>170</sup> This is especially true when talking about ART because the particular nature of ART speaks to mankind's very existence and, ultimately, one's fundamental belief system. This section presents a sample of religious perspectives representative of several major sects. One can see many parallels between the assorted religious perspectives and the various legal conclusions. An important correlation is the internal discrepancies among and within the religious factions similar to those within the judiciary and legislative factions of the legal system. However, one significant foundational precept to consider in launching this exploration is that "all major religions generally believe human life and dignity should be respected."<sup>171</sup>

[42] Is ART a violation of natural law or a medical advance to relieve suffering? Have humans shifted from "procreation" to "reproduction?" Has the consequence of separating sex from fertilization taken us "from the implicitly God-honoring term (procreation) to the human-centered manufacturing language of production?"<sup>172</sup> Procreation suggests creative involvement of God resulting in human co-creation, truly

<sup>&</sup>lt;sup>169</sup> Robert Orr & Leigh Genesen, *Medicine, Ethics and Religion: Rational or Irrational?*,24 J. MED. ETHICS 385 (Dec. 1998).

<sup>&</sup>lt;sup>170</sup> L. Skene & M. Parker, *The Role of the Church in Developing the Law*, 28 J. MED. ETHICS 215 (Aug. 2002).

<sup>&</sup>lt;sup>171</sup> Sophie Boukhari, *Religion, Genetics and the Embryo- various religious views of the human embryo*, UNESCO COURIER, 52 (Sept. 1999).

<sup>&</sup>lt;sup>172</sup> Gordon Stirrat, *The Reproduction Revolution – A Christian Appraisal of Sexuality, Reproductive Technologies and the Family*, 27 J. MED. ETHICS 415 (Dec. 2001).

begotten of one being with its parents and flesh of their flesh.<sup>173</sup> Reproduction suggests a child is a product of human action alone, man-made, a product and a possession.<sup>174</sup>

[43] Most religions, in harmony with the law,<sup>175</sup> have a strong commitment to marriage and family.<sup>176</sup> ART developed in response to "epidemic infertility."<sup>177</sup> The leading cause of infertility is sexually transmitted diseases ("STDs").<sup>178</sup> Sex outside of marriage is "nothing more than a means of self gratification [and] [t]he true underlying cause of the havoc consequent the current epidemic of STD's."<sup>179</sup> ART is the evident hallmark of that havoc and, as a result, we now ironically have procreation separated from the physical union of a man and woman.

<sup>174</sup> See id.

<sup>175</sup> See, e.g., Rao, supra note 74 at 1095 (commenting on Justice Douglas ending his opinion in Griswold v. Connecticut, 381 U.S. 479, 486 (1965), "with a tribute to marriage"); Id. at 1098 (noting the Court's opinion in Roberts v. U.S. Jacyees, 468 U.S. 609, 619 (1984), that "the relationships . . . entitled to . . . constitutional protection, are those that attend the creation and sustenance of a family – marriage . . . . "); Id. at 1106 n.170 (quoting Justice Blackmun's dissent in Bowers v. Hardwick, 478 U.S. 186, 209-210 n.4 (Blackmun, J., dissenting) "a State might conclude that adultery is likely to injure third persons, in particular spouses and children of persons who engage in extra marital affairs"); Mika & Hurst, supra note 9, at 1002 (emphasizing "[m]arriage and procreation are fundamental to the very existence and survival of the race); John A. Robertson, Assisted Reproductive Technology and the Family, 47 HASTINGS L.J. 911, 933 (1996) (stating "how important family is to human flourishing).

<sup>176</sup> See, e.g., Stirrat, supra note 172; A. Sutton, supra note 172; David Guinn, Now, the Real Foundations of Bioethics, 31 THE HASTINGS CENTER REPORT 46 (Nov/Dec 2001).

<sup>177</sup> Shuster, *supra* note 33, at 423.

<sup>178</sup> John S. Williamson & Christy M. Wyandt, *Chlamidia: The Silent STD*, DRUG TOPICS, Sep. 4, 2000, at 37.

<sup>179</sup> See Stirrat, supra note 172.

<sup>&</sup>lt;sup>173</sup> Agneta Sutton, *Revisiting Reproductive Technology's Slippery Slope in the Light of the Concepts of Imago Dei, Co-Creation and Stewardship*, 18 ETHICS & MEDICINE 145, 147 (Fall 2002).

## A. Catholic Faith

[44] The Catholic Church generally disapproves of ART because it "separates the unitive from the procreative aspect of the marital act."<sup>180</sup> The Roman Catholic Church believes there is a "sacred link between sexuality and procreation established by God,"<sup>181</sup> and "therefore all ART is condemned because they bypass the sexual act ... constitut[ing] a failure to procreate in the sense of co-create."<sup>182</sup> The Catholic Church further contends that marriage is the only appropriate context for the creation of children in which fidelity involves reciprocal respect of the right to parent only through each other.<sup>183</sup> The Catechism clearly establishes that procreation is deprived of perfection when not an act of spousal union and donor material destroys the sanctity of marriage by involving the intrusion of a person other than the couple which is "gravely immoral."<sup>184</sup> The Vatican's Congregation for the Doctrine of Faith asserts that under strict adherence to Catholicism IVF, AID and most forms of AIH are "morally illicit" and AIH would be permissible "only if it serves to facilitate the conjugal act and is not a substitute."<sup>185</sup> [45] ART is a concern for Catholic moral theology (social justice teaching) as well. The Catholic social justice teaching is one with an emphasis on promoting "well-being

<sup>&</sup>lt;sup>180</sup> Brenwald & Redeker, *supra* note 1, at 620 n.110.

<sup>&</sup>lt;sup>181</sup> Boukhari, *supra* note 171.

<sup>&</sup>lt;sup>182</sup> Agneta Sutton, *supra* note 173.

<sup>&</sup>lt;sup>183</sup> Brenwald & Redeker, *supra* note 1, at 620 n.110; Agneta Sutton, *supra* note 173.

<sup>&</sup>lt;sup>184</sup> THE CATECHISM OF THE CATHOLIC CHURCH, §§ 2375-2377, *available at* <u>http://www.vatican.va/archive/catechism/p3s2c2a6.htm</u> (last visited Nov. 25, 2006).

<sup>&</sup>lt;sup>185</sup> S. Sutton, *supra* note 1, at 884 n.180 (quoting MICHAEL J. COUGHLAN, THE VATICAN, THE LAW, AND THE HUMAN EMBRYO 6 (1990)).

within a common good" and all things are to be considered with respect to the good of the whole community.<sup>186</sup> That "good" must also be equally accessible by all.<sup>187</sup>

## B. Lutheran Faith

[46] The Lutheran Church believes "theologically we are all children of God through adoption, Christ's blood effectively being all that matters."<sup>188</sup> The church is concerned about IVF (because of the possibility for multiple births and abortion), but is generally unopposed to AI, although adoption is preferred.<sup>189</sup> The Lutheran Church is adamantly opposed to PHC.<sup>190</sup>

C. Methodist Faith

[47] The Methodist Church "hasn't taken a formal position on many issues."<sup>191</sup> Like the Catholic Church, approval is less likely if the method of ART is foreign to the intimate relationship of the married couple.<sup>192</sup> Posthumous conception ("PHC") may be approved *if* the parties are husband and wife and adoption is preferred rather than introduction of donor sperm.<sup>193</sup>

D. Presbyterian Faith

<sup>187</sup> *Id*.

<sup>188</sup> Brenwald & Redeker, *supra* note 1, at n.110.

<sup>189</sup> *Id*.

<sup>190</sup> *Id*.

<sup>191</sup> *Id*.

<sup>192</sup> *Id*.

<sup>193</sup> *Id*.

<sup>&</sup>lt;sup>186</sup> Michael W. Gallagher, *The Ethics and Economics of Assisted Reproduction: The Cost of Longing*, 63 THEOLOGICAL STUDIES 868 (Dec 2002).

[48] For the Presbyterian Church, "all methods of ART raise questions about the appropriateness of conception for a couple."<sup>194</sup> Within the Church there are reservations regarding anonymous sperm donation, fertility drugs and embryo destruction.<sup>195</sup> One Reverend commented, "[t]here is something appallingly mechanical about turning reproduction into a business whereby some life-bearing matter is saved and the rest thrown out or frozen . . . ."<sup>196</sup>

#### E. <u>Muslim/Islam Faith</u>

[49] "Muslims believe that God ordained that some couples would be infertile."<sup>197</sup> The Quran states, "He creates what He will. He bestows male or female children to whom He wills. He bestows both males and female children (to some) and He leaves barren whom He wills."<sup>198</sup> However, seemingly contradictory, an Islamic principle allows the use of lawful means when facing a hardship, while preserving trust in God that He will help.<sup>199</sup> The family is based on marriage and the centrality of the family unit is emphasized.<sup>200</sup> The family and blood relations in Islam are paramount. Thus, there is great importance placed upon the "preservation of progeny" and therefore, fornication and adultery are

<sup>195</sup> *Id*.

<sup>196</sup> *Id*.

<sup>198</sup> Id. (quoting THE HOLY QURAN 42:49-50 (Abdullah Yusuf Ali trans., 1982)).

<sup>199</sup> Fadel, *supra* note 197.

<sup>200</sup> *Id.* at 150-151.

<sup>&</sup>lt;sup>194</sup> Brenwald & Redeker, *supra* note 1, at n. 110.

<sup>&</sup>lt;sup>197</sup> Hossam Fadel, *Religious Values and Legal Dilemmas in Bioethics: The Islamic Viewpoint on New Assisted Reproductive Technologies*, 30 FORDHAM URB. L.J. 147 (Nov. 2002).

strictly prohibited.<sup>201</sup> Donor eggs, sperm, or embryos constitute "genetic adultery" with unclear lineage.<sup>202</sup> However, AIH and IVF are permissible if only the couple's gametes are used and the marriage is intact.<sup>203</sup> Surrogacy is prohibited.<sup>204</sup>

## F. Jewish Faith

[50] Rabbi Seigel, Professor of Ethics at a Jewish Theological Seminary, "compared efforts to have children by whatever means to obeying God's commandment to have children. 'When nature does not permit conception, it is desirable to try to outwit nature. The Talmud teaches that God desires man's cooperation.<sup>205</sup> It is extrapolated from the origins of Ben Sira, the third century author of the Proverbs, that artificial insemination must be permissible.<sup>206</sup> The birth of Ben Sira is said to have resulted from his mother becoming pregnant after immersion in a ritual bath where a left-over drop of sperm fertilized her ovum.<sup>207</sup> "The only way to ensure that a child born from IVF will not violate Jewish laws governing kinship is to use sperm of a non-Jew."<sup>208</sup> The main danger

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

<sup>205</sup> Kathryn Venturatos Lorio, *From Cradle to Tomb: Estate Planning Consideration of the New Procreation*, 57 LA. L. REV. 27, at 29 n.8 (1988) (citation omitted) (quoting Kathryn Venturatos Lorio, *In Vitro Fertilization & Embryo Transfer: Fertile Areas for Litigation*, 35 Sw. L.J. 973, 980 n.59 (1982)).

<sup>206</sup> Joshua H Lipschutz, *To Clone or Not to Clone-A Jewish Perspective*, 25 J. MED. ETHICS 105 (April 1999).

<sup>207</sup> Id.

<sup>&</sup>lt;sup>201</sup> *Id.* at 151.

<sup>&</sup>lt;sup>202</sup> Boukhari, *supra* note 171.

<sup>&</sup>lt;sup>203</sup> See Fadel, supra note 197, at 151-152.

<sup>&</sup>lt;sup>208</sup> Jeffrey D. Feldman, *Reproducing Jews: A Cultural Account of Assisted Conception in Israel*, 28 AMERICAN ETHNOLOGIST 924 (Nov 2001).

is in the potential that IVF could technically result in incest, therefore non-Jewish sperm is "re-classified as the origin of Judaism".<sup>209</sup> The birth mother is considered to be the true mother.<sup>210</sup>

[51] Therefore, ART has taken us to a very slippery slope. It is now possible to separate the physical act and the conjugal relationship from procreation.<sup>211</sup> It is possible to remove the process of fertilization from its natural environment.<sup>212</sup> It is possible to separate gestational from genetic motherhood and possible to create life from the grave.<sup>213</sup> But, our ultimate feat is the total separation of human procreation from fertilization (i.e., cloning).<sup>214</sup>

### IV. ETHICAL CONSIDERATIONS

[52] This is a question that contemplates "what is right versus what is wrong". It is a question that finds application between man and society and between men individually. What may be morally acceptable between two humans may not be morally acceptable between humans and society. Though on its face the difference between right and wrong may seem obvious and simple, we see that this too can be quite complex, especially when the question is applied to the perpetuation of the human species.

<sup>209</sup> *Id.* at 925.

<sup>&</sup>lt;sup>210</sup> See Lipschutz, supra note 206, at 106; Feldman, supra note 208, at 925.

<sup>&</sup>lt;sup>211</sup> See supra notes 6-46 and accompanying text.

<sup>&</sup>lt;sup>212</sup> See supra notes 6-46 and accompanying text.

<sup>&</sup>lt;sup>213</sup> See supra notes 6-46 and accompanying text.

<sup>&</sup>lt;sup>214</sup> Agneta Sutton, *supra* note 131, at 153.

[53] Man uses many technologies to extend life, in fact many cultures and religions have decided ending one's life is unethical, if not illegal.<sup>215</sup> So why the ethical question with artificial reproductive technologies? Perhaps the question finds its origins in the fact that it does not apply to a life in being, but rather to the creation of new life. Why does man accept altering the destiny of the living, but shudders at the prospect of controlling the destiny of those not yet born? What is the difference? Man is altering destiny just the same, or tampering with God's will as some would say. Who is to say it is not destiny that alters the course of one's life in being or manipulates the course of the yet unborn? [54] What is the harm of ART between men, or between man and society? Conceivably, the harm could stem from a conflict of rights. What and whose rights are protected? Is it the right to privacy, the right to personal autonomy, the right to procreation, or some other nebulous right as yet undefined? Is it some combination of these rights weighed against one another in a delicate balancing act: the right to be or not to be; the right to procreate or the right not to procreate; the right to life or the right to terminate life; the right to private autonomy or the right to freedom from bodily invasion; the right to private intimate relationships or the right to be free from governmental interferences into those relationships. This is only a partial list for consideration. Are any of these rights absolute - can any rights be absolute within the context of a society? Does a dead person have any constitutional rights to be enforced? Does the yet-to-be conceived have any constitutional rights?

<sup>&</sup>lt;sup>215</sup> See, e.g., 60 minutes: The Debate Over Plan B (CBS News broadcast, November 27, 2005), available at <a href="http://www.cbsnews.com/stories/2005/11/22/60minutes/main1068924.shtml?CMP=ILC-SearchStories">http://www.cbsnews.com/stories/2005/11/22/60minutes/main1068924.shtml?CMP=ILC-SearchStories</a> (Nov. 27, 2005).

[55] "[T]he right to reproduce is fundamentally a negative, not a positive right. It creates no reproductive obligation on others."<sup>216</sup> Couples who do not use assisted reproduction cannot procreate after one partner dies. The death of either partner is a clear and practical limit. So, why should couples who use assisted reproduction have extended limits?<sup>217</sup> "Having a deep desire and even a need for something does not justify doing anything whatsoever to obtain it."<sup>218</sup>

[54] The right to privacy "casts a mantle of immunity from state interference around certain intimate and consensual relationships."<sup>219</sup> Is there a protected relationship when one person is dead? By introducing strangers into the relationship through ART, hasn't the couple already consented to diminished privacy?<sup>220</sup> In ART, third parties are actual participants, not assistants, in procreation.<sup>221</sup> In most nations in the world, there is still a serious legal question as to whether a consenting husband will be deemed the "father" of a child of AID.<sup>222</sup> Whose name goes on the birth certificate?<sup>223</sup>

<sup>220</sup> *Id.* at 1117.

<sup>221</sup> Brenwald & Redeker, *supra* note 1, at 637 n.174.

<sup>222</sup> Sutton, *supra* note 1, at 906 n.333 (citing RUSSELL SCOTT, THE BODY AS PROPERTY 205 (1981)).

<sup>223</sup> Brenwald & Redeker, *supra* note 1, at 637 n.174.

<sup>&</sup>lt;sup>216</sup> Shuster, *supra* note 33, at 408.

<sup>&</sup>lt;sup>217</sup> *Id.* at 421.

<sup>&</sup>lt;sup>218</sup> Cynthia B. Cohen, "Give Me Children or I shall Die!" New Reproductive Technologies and Harm to Children, 26 THE HASTINGS CENTER REPORT 19 (March 1996).

<sup>&</sup>lt;sup>219</sup> Rao, *supra* 74 at 1078.

[57] Post-mortem sperm or egg retrieval involves "trespassing the integrity of a dead body" to benefit the requestor and has been criticized as "perilously close to rape."<sup>224</sup> What about consent? Is there such a thing as valid consent or even valid "proxy consent"? Does death end a marriage from a religious perspective? Is PHC forced procreation? Just because a person has the intent to have a child with another while alive does not necessarily translate to consent to use one's gametes upon death.

Selective, or pregnancy reduction abortions, are routinely performed in many [58] ART methods.<sup>225</sup> What happens to left over or abandoned gametes from ART procedures? Is it ethical to harvest oocytes from aborted female fetuses? Can a dead fetus make a procreative decision? The child that results will have a dead fetus as a genetic parent. Taken to the extreme - if a woman terminated a pregnancy, she could still procreate by having genetic grandchildren utilizing the eggs from her dead fetus.<sup>226</sup> What about those who use reproductive technologies for reasons of convenience [59] (a woman who does not wish to be physically pregnant, holding off for career reasons, etc.)? The right to bodily integrity prohibits physical invasion of the body – but does this right extend constitutional protection to noncoital methods of reproduction?<sup>227</sup> If so, does it extend to a convenience situation? In other words, does the end justify the means? Perhaps another source of harm arises from a conflict of interests. There are [60] multiple interests to keep in mind: the interests of the child; the interests of the parents

<sup>&</sup>lt;sup>224</sup> Orr & Siegler, *supra* note 36, at 300.

<sup>&</sup>lt;sup>225</sup> See, e.g., supra notes 17-18 and accompanying text.

<sup>&</sup>lt;sup>226</sup> Shuster, *supra* note 33, at 419.

<sup>&</sup>lt;sup>227</sup> Rao, *supra* 74 at 1115.

(genetic versus gestational versus societal versus nurturing); the interests of scientific advancement; and the interests of the human race. One must also consider the prioritization of those interests. Do the parental interests supercede the child's interests? Can a not-yet-conceived child have an interest in existence to protect?<sup>228</sup>

[61] Children have no control over the circumstances of their conception. Shouldn't a decision to bring a child into the world (whether before or after death) also include the commitment to raise and care for that child? Aren't donors actually voluntarily abandoning their children? In ART there is a detachment of interest in creating offspring from the commitment to care for them. "Separating children from their genetic parents is a destructive practice that subverts the very notion of parenthood."<sup>229</sup> Does parenthood require a central value of commitment and relationship? But, that raises the question - what defines parenthood?

[62] "A couple wishing to adopt a child must meet certain standards, and have home visitations . . . yet one can create a child from the gametes of strangers without any evaluation of fitness."<sup>230</sup> Does the public policy interest of a child having two parents whenever possible extend to homosexual couples?<sup>231</sup> Consider nontraditional families. In one case, a woman inseminated herself with a friend's semen in order to raise a family with her female companion.<sup>232</sup> In another, a partner of a lesbian couple was inseminated

<sup>&</sup>lt;sup>228</sup> Shuster, *supra* note 33, at 412.

<sup>&</sup>lt;sup>229</sup> *Id.* at 422.

<sup>&</sup>lt;sup>230</sup> Brenwald & Redeker, *supra* note 1, at 652-653.

<sup>&</sup>lt;sup>231</sup> See Dyer, supra note 115, at 1001.

<sup>&</sup>lt;sup>232</sup> Brenwald & Redeker, *supra* note 1, at 612-613 n.51.

with the semen of her companion's brother.<sup>233</sup> If the couples split – who supports the child?

[63] Finally, a substantial harm that must be considered is the reality of children born with severe and devastating disorders as a result of ART. Those disorders not only affect the child but also the family and society into which they are born. The physical, emotion, and psychological harm created as a result of interfering with nature or manipulating the earliest stages of life has indiscriminate consequences for all.

[64] "[M]any children who beg[i]n life as frozen embryos are being closely monitored [for] . . . determination of the presence of developmental delays or other abnormalities. The final impact of this developing technology has not yet been fully determined."<sup>234</sup> "Few long-term studies have been undertaken of the kinds and rates of physical damage and abnormalities incurred by children born of the new reproductive technologies."<sup>235</sup> Further, little research is available on the effect of the use of ART on the psychosocial development of the resulting children.<sup>236</sup> Data from Australia indicates that IVF children are 2-3 times more likely to suffer serious diseases.<sup>237</sup> Little is known regarding the psychological impact on these children and there are concerns their social welfare may be

<sup>&</sup>lt;sup>233</sup> Mika & Hurst, *supra* note 9, at 1001.

<sup>&</sup>lt;sup>234</sup> Brenwald & Redeker, *supra* note 1, at 618-19.

<sup>&</sup>lt;sup>235</sup> Cohen, *supra* note 218.

<sup>&</sup>lt;sup>236</sup> *Id*.

<sup>&</sup>lt;sup>237</sup> *Id*.

jeopardized.<sup>238</sup> There is "a higher incidence of perinatal, neonatal and infant mortality in children conceived by IVF".<sup>239</sup>

[65] There were recently two children born in the United States from embryos which had been frozen for seven years.<sup>240</sup> One was born nearly 8 years after his fraternal twin.<sup>241</sup> "A child might be born a century or more after the death of its genetic parents. The child would grow up among the great-great-grandchildren of its genetic brothers and sisters."<sup>242</sup>

[66] Further, the likelihood of incidental incest is always impending whenever children and parents are not fully aware of their biological origins.<sup>243</sup> It is the inescapable reality in cloning. Now imagine the role it plays in instances where the natural progression of life and birth has been suspended indefinitely in a freezer.

[67] All forms of ART employ "unnatural" selection. For example, ICSI can perpetuate birth defects that nature would ordinarily prevent by allowing a defective sperm to fertilize an egg.<sup>244</sup> Pre-implantation genetic testing allows for human selection

<sup>238</sup> *Id*.

<sup>239</sup> Id.

<sup>240</sup> Brenwald & Redeker, *supra* note 1, at 618 n.99.

 $^{241}$  *Id*.

<sup>242</sup> Sutton, *supra* note 8, at 860 n.20.

<sup>243</sup> Brenwald & Redeker, *supra* note 1, at 648 n.240.

<sup>244</sup> See supra notes 12-13 and accompanying text.

of the embryo for implantation.<sup>245</sup> Ultimately, the commodification of reproduction may lead to DNA marketing and to attempts to upgrade the gene pool by replicating superior types (e.g., athletes, talented, genius). ART perpetuates the search for the optimum baby and the desire to replace a lost loved one. In the most narcissistic of people, it tantalizes them to self re-creation!

#### **V. CONCLUSION**

[68] ART, "the ART of creating babies," affects the living, the dead, and the yet to be born. Many technologies affect the living and through extrapolation may be considered to affect potential life, but only as a direct result of its effect on the living. In unparalleled and insurmountable contrast, ART uniquely reaches beyond the realms of physical existence. It projects from beyond the cradle to beyond the grave and encompasses the entire circle extending from beginning to end and back again. Remember, it includes cloning.

[69] The sheer and unprecedented magnitude the effect this technology has on the human race is undoubtedly heralded by the manifestation of paralysis. A paralysis that has left this technology unbridled and progressing now at the speed of light. From just the limited presentation here, one overwhelmingly realizes that virtually anything imaginable, with regard to the use of this technology, is not only possible but probable. The possibilities are endless and only limited by the indelible variable of human nature. One author suggests that "people feel oppressed by the sense that there is probably

<sup>&</sup>lt;sup>245</sup> New York Times *Examines Debate Over Preimplantation Genetic Diagnosis*, MEDICAL NEWS TODAY (November 28, 2005), *available at* <u>http://www.medicalnewstoday.com/medicalnews.php?newsid=34006</u>.

nothing we can do to prevent [cloning] from happening. This makes the prospect all the more revolting."<sup>246</sup>

[70] One can see the profound complexity human nature brings to the equation. There are families feuding and fighting over the disposition of genetic material.<sup>247</sup> The potential abuses and illicit uses are staggering. These are basically technologies for the rich – the government need not provide economic access to it through federal or state funding. Soon "the genetic[] elite may become an offshoot of the wealthy elite".<sup>248</sup> The selection of a genetically superior gene pool would decrease the diversity of [71] the gene pool and thereby increase the potential for incestuous unions producing impaired children if natural conception occurs within that limited gene pool. Should we abandon sex as a human race and avoid the risks of HIV, other STDs, and the ultimate perils of ART? How do we accomplish that – compulsory sterilization, criminal penalties? Is it possible to extinguish biological instincts? Unnatural asexual reproduction in the human race will lead to extinction if sex drives still exist. If normal sexual intercourse results in a conception between two genetically similar, or worse yet – identical – individuals, the result will be grave defects and impairment if the conceptus survives at all. If we fall under the control of an individual who believes ART is the preferred and superior method of reproduction – what then?

<sup>&</sup>lt;sup>246</sup> Leon R. Kass, *The Wisdom of Repugnance*, 216 THE NEW REPUBLIC 17 (June 2, 1997).

<sup>&</sup>lt;sup>247</sup> For an analysis of several cases documenting these struggles, *see supra* notes 52-141 and accompanying text.

<sup>&</sup>lt;sup>248</sup> Brenwald & Redeker, *supra* note 1, at 606 n.29.

[72] ART has the capacity to change human evolution in a multitude of ways. One way is through cryopreservation.<sup>249</sup> It allows for gross manipulation of the element of time in the process of evolution. Through cryopreservation one can introduce, back into the genetic pool, those unevolved genes belonging to biological precursors from generations before. Since evolution is a principle founded on natural orderly progression through time, the entire process for the human race will be necessarily destroyed by ART. Evolution further does not allow for procreation from the dead nor does it encompass recreation of one's self through cloning.

[73] One can only speculate the latent injurious or disastrous consequences that may befall the human race as a result of ART. Can this technology be controlled or at least reined in a bit? We saw that law's conclusions mirror religion's conclusions, but law arrives at those conclusions in a vastly different way. However, the policy references are reflective of religion. Can and does law use religion to help shape its decisions in the area? Can religion use law to protect its viewpoint through amici curiae participation? Where do we place ethics? Between law, religion, and ethics, which one will actually end up controlling ART? Is law the answer at this point? Can law realistically be the answer at this point? Perhaps we come full circle back to sex within the confines of marriage as the only acceptable form of reproduction. Is organized religion unified enough to champion this feat? Maybe a universal ethic among men that supports the human race is capable of achieving what law and religion cannot? Is there enough harmony of purpose within the human race to support such an ethic?

<sup>&</sup>lt;sup>249</sup> See supra notes 40-46 and accompanying text.

[74] Can we conceivably control this technology? Past experience has taught us that it is unlikely. Some examples of this past experience included: nuclear arms, atomic energy, small pox, disease producing agents, and chemical toxins. Once again the variable of human nature emerges in the analysis. From every choice there flows a consequence. One cannot predict the precise scope of a consequence with absolute certainty. Further, no one can control another's ulterior motives or prevent self aggrandizement. Certainly, this cannot be achieved on a global level.

[75] Only from within this context of realism can one begin to see the enormity of the issues created by ART. Man has unleashed a technology capable of leading to the extinction of the entire human race. Man thus far, through ethics, religion or law, has been unable to contain this technology. Do we look beyond man? Is divine intervention the only answer.