

## Assisted Reproduction Technology: Trends and Suggestions for the Developing Law

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### I. Introduction

Assisted reproduction is a relatively recent phenomenon. Aside from a few isolated examples, which apparently did not raise legal issues, assisted reproduction did not really come into its own until the practice of artificial insemination became common in the mid-twentieth century. Perhaps the earliest recorded example of a gestational agreement (surrogate mother) took place in biblical times.<sup>1</sup> The first known example of artificial (non-coital) insemination was in 1785, by John Hunter, the famous Scottish surgeon.<sup>2</sup> In 1866, the prominent American gynecologist, James Marion Sims recorded a successful artificial insemination (AI).<sup>3</sup> A donor insemination (DI) took place in Philadelphia in 1884. Reportedly, a patient of Doctor William Pancoast, a young Quaker woman who sought treatment for infertility (it was later determined by Doctor Pancoast that her husband was sterile, i.e., had azoospermia) was inseminated by Doctor Pancoast with semen from the “best looking” medical student in the medical school class that he taught, without her knowledge or consent. Apparently neither the woman nor her husband were ever aware of the insemination, or of the fact that

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<sup>1</sup> Miryam Z. Wahrman, *Assisted Reproduction and Judaism*, Jewish Virtual Library, at <http://www.us-israel.org/jsource/Judaism/ivf.html> (last visited Apr. 3, 2003). Although no legal problems ensued, the arrangement did not end happily: the child, Ishmael, was made an outcast, but later, so the story goes, became the prophet of Islam. See GENESIS 16.

<sup>2</sup> Centre for Reproductive Medicine, Bristol, History-20th Century-UK, at [http://www.repromed.org.uk/history/history\\_1500.htm](http://www.repromed.org.uk/history/history_1500.htm) (last visited 4/22/03).

<sup>3</sup> James M. Sims, *Clinical Notes on Uterine Surgery, with Reference to the Management of the Sterile Condition*. London, R. Hardwicke, 1866. Cited at <http://www.whonamedit.com/doctor.cfm/2013.html> (last visited 4/22/03).

178 *Journal of the American Academy of Matrimonial Lawyers*

the child to whom she gave birth was not that of her husband.<sup>4</sup> In 1945, four cases of artificial insemination by donor (DI) were reported in the *British Medical Journal*. Shortly after that, in 1948, the Archbishop of Canterbury, following a commission of inquiry, called for the criminalization of DI.<sup>5</sup>

As far back as 1866, Montegazza speculated that soldiers going into battle might have their sperm frozen beforehand, so that, in the event they were killed in battle, their wives might use the sperm to posthumously beget heirs.<sup>6</sup> The technique of cryopreservation of human sperm was perfected in the early 1950's, and the first known successful impregnation using frozen sperm was in 1953.<sup>7</sup> The Uniform Parentage Act of 1973 provided that the husband of a woman who undergoes DI is the legal father of the child, provided he has properly consented in a writing.

The first known in vitro fertilization (IVF) of human eggs is reported to have occurred in 1944.<sup>8</sup> The first known live birth resulting from IVF was in 1978.<sup>9</sup> In the United States in 1999 alone, according to the Society for Assisted Reproductive Technology (SART) Clinical Outcome Reporting System, 360 infertility programs reported a total of 88,077 cycles of ART treatment, of which 63,639 involved IVF.<sup>10</sup>

Generally, assisted reproduction refers to the achievement of pregnancy and delivery without sexual intercourse. The new Uniform Parentage Act (2002) defines assisted reproduction as "a method of causing pregnancy other than sexual intercourse," and specifically includes: "(A) intrauterine insemination; (B) do-

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<sup>4</sup> Addison Davis Hard, *Artificial Impregnation*, 27 *MED. WORLD*, 163 (1909). Cited at [http://www.repromed.org.uk/history/history\\_1500.htm](http://www.repromed.org.uk/history/history_1500.htm) (last visited 4/22/03).

<sup>5</sup> Centre for Reproductive Medicine, Bristol, *History-20th Century-UK*, at [http://www.repromed.org.uk/history/20th\\_uk.htm](http://www.repromed.org.uk/history/20th_uk.htm) (last visited Apr. 3, 2003).

<sup>6</sup> E. Donald Shapiro and Benedene Sonnenblick, *The Widow and the Sperm: The Law of Post-mortem Insemination* 229 *J. LAW AND HEALTH* 234 (1986-87), citing *IDANT LABORATORY, IDANT SPERM BANKING HANDBOOK*.

<sup>7</sup> RK Bunge, *Fertilizing Capacity of Frozen Spermatozoa*, 172 *NATURE* 767 (1953), cited at <http://www.repromed.org.uk/history> (last visited 4/22/03).

<sup>8</sup> <http://www.repromed.org.uk/history> (last visited 4/23/03).

<sup>9</sup> Patrick Steptoe and Robert Edwards, *Birth After Re-implantation of a Human Embryo*, 2 *LANCET* 366 (1978), cited at <http://www.repromed.org.uk/history> (last visited 4/23/03).

<sup>10</sup> Society for Assisted Reproductive Technology and the American Society for Reproductive Medicine. 78 *FERTILITY & STERILITY* 918 (2002).

nation of eggs; (C) donation of embryos; (D) in-vitro fertilization and transfer<sup>11</sup> of embryos; and (E) intracytoplasmic sperm injection.”<sup>12</sup>

This article discusses attempts by courts to graft a body of law developed over several centuries within a universe where reproduction is solely sexual, or coital, onto unique fact situations that have arisen out of assisted reproduction. With its ever expanding and changing array of new technology, the area of assisted reproduction has highlighted the need for new paradigms to solve emerging cases and controversies.

Just how ingrained legal thought has become over those several centuries is illustrated by the simple example of artificial insemination by donor (DI). In this context, donor refers to a man providing sperm for insemination of a woman to whom he is not married, and presumably with no intent to be the child's parent, or to have an ongoing relationship with the child. Whether money is paid for the sperm is irrelevant with respect to the cognomen of “donor.” While some jurisdictions have codified the concept that the wife's husband is the child's father, and is so listed on the birth certificate, others have not, and still treat the artificial insemination as if the child were born out of wedlock by coital means.<sup>13</sup> Ordinarily the child would still be the child of the marriage, assuming the husband had properly consented to the insemination. If the parties divorce after the insemination, the ex-husband may seek to deny paternity, in which case an issue may arise in a state with no statute, depending upon the jurisdic-

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<sup>11</sup> In this paper, I use the term “transfer” to mean when an embryo is placed in the body of a woman with the intent to produce implantation of the embryo. While implantation would ordinarily occur within a few hours after transfer, the actual time of implantation cannot be entirely controlled, and the legally significant event is transfer.

<sup>12</sup> Uniform Parentage Act (2000) with prefatory note and comments (and with Unofficial Annotations by John J. Sampson, Reporter), 35 FAM. L. Q. 83, 96 (2001), and as officially amended on November 13, 2002, at <http://www.law.upenn.edu/bll/ulc/upa/final2002.htm> (last visited 4/22/03).

<sup>13</sup> In at least thirty four states, statutory law provides that the resulting child is the child of the recipient and her consenting husband. Lori B. Andrews, *Donors, Deadbeats and Ghost Dads: Social Values and the Role of Genetics in Determining Parental Rights and Responsibilities*, presented at GENETIC BONDS AND FAMILY LAW: THE CHALLENGE OF DNA PARENTAGE TESTING, New Orleans, March 28, 2003.

tion.<sup>14</sup> The Uniform Parentage Act (1973) provided for protection of the sperm donor, and the Uniform Status of Children of Assisted Conception Act (USCACA) (1988) established a parallel provision for egg donors.<sup>15</sup> The UPA (2000) incorporates the provisions of USCACA involving egg donors.<sup>16</sup>

Examples of how befuddled courts can become when presented with the novel fact situations that arise in the area of assisted reproduction are presented by the cases of *Davis v. Davis*,<sup>17</sup> and *Buzzanca v. Buzzanca*.<sup>18</sup> In *Davis*, the trial court decided a dispute about possession and control of frozen embryos. The case arose after the couple who created them with their respective sperm and eggs during the marriage, and initially intended to use them for procreation, later divorced and disagreed about what should happen to the embryos. The ex-husband wanted them destroyed, and the ex-wife wanted them for transfer into herself. The trial court found for the ex-wife based on a “best interests of the child” standard, conveniently equating the frozen embryos with live children in a custody dispute.<sup>19</sup> In *Buzzanca*, the facts involved a married couple who obtained a frozen embryo which had no genetic relationship to either of them, and hired a surrogate (who also had no genetic relationship to the child) to gestate the embryo to term so that the Buzzancas would have a child to raise as their own. During the surrogate’s pregnancy, and before the birth of the child, the couple divorced, and in a child support hearing which followed the birth of the child, the court held that neither of the Buzzancas, nor the surrogate, was the child’s parent, and that the child had no parents! Fortunately, in both of these cases, the respective State Supreme

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<sup>14</sup> See Theresa Glannon, *Somebody’s Child: Evaluating the Erosion of the Marital Presumption of Paternity*, 102 W. VA. L. REV. 547, 550 (2002) (noting that “[a]lthough all states continue to recognize a marital presumption of paternity in the husband, few continue to treat the presumption as irrebuttable).

<sup>15</sup> UNIFORM STATUS OF CHILDREN OF ASSISTED CONCEPTION ACT (1988), 9C U.L.A. 363 (2001). USCACA was adopted by North Dakota and Virginia.

<sup>16</sup> At the time of this writing, UPA (2000) (UNIF. PARENTAGE ACT, 9B U.L.A. 355 (2001) has been adopted by Texas and Washington). The Revised UPA (2002) has been adopted by Wyoming.

<sup>17</sup> 842 S.W.2d 588 (Tenn. 1992).

<sup>18</sup> 72 Cal. Rptr. 2d 280 (1998), *reh’g denied*, 1998 Cal. LEXIS 3830 (1998).

<sup>19</sup> 842 S.W.2d at 589.

Courts found more reasonable solutions, but only after years of expensive litigation and sensational media coverage.

In the traditional legal paradigm, the legal mother-child relationship has always been a perfect fit with the biological relationship between the woman giving birth to the child (that is, the woman whose egg was fertilized as a result of sexual intercourse, and who delivered the child), and the child. That woman was always the gamete (ovum, or egg) provider-gestational mother. Of course there could always have been an issue as to the identity of the woman who conceived and bore the child. Similarly, the man whose sperm fertilized the woman's egg was the father. Of course, establishing the identity of the father was an issue much more frequently, for obvious reasons. A few modifications in the law, such as the presumption that the child was a child of the marriage, seemed to smooth out most of the wrinkles that difficulties with the identity of the father presented. In the meantime, the law of adoption was evolving toward providing legal parent-child relationships equal to those accorded biologically-determined parent-child relationships.

Then the world of parental rights and parent-child relationships turned topsy-turvy, with *In re Baby M*<sup>20</sup> in New Jersey, and in *Davis v. Davis*<sup>21</sup> in Tennessee. A number of other cases followed, and are discussed in detail below. What became evident, though, was that the traditional way of thinking about legal parent-child relationships just didn't work anymore. There had to be a way of determining legal parent-child relationships, or lack thereof, that didn't upset the law relating to traditional fact situations, yet provided sensible and fair resolution of disputes that arose from the unique and often bizarre fact patterns that emerged from the employment of the new technology of assisted reproduction. This technology was developing largely because of the age-old strongly-felt need (or mandate) to "be fruitful and multiply, and replenish the earth," and the powerful stigma of barrenness.

What may be considered side-effects of the development of this new reproduction technology are other phenomena, such as revival of notions of eugenics, both for prevention of disease, and

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<sup>20</sup> 537 A.2d 1227 (N.J. 1988).

<sup>21</sup> 842 S.W.2d 588 (Tenn. 1992).

“enhancement.” The relatively recent technique of ooplasmic transfer permanently alters the cytoplasmic, or mitochondrial DNA of the egg.<sup>22</sup> The potential for permanently altering the human genome by altering nuclear DNA exists today. In the world of non-human genetics, such techniques are commonly used, for instance in modifying bacteria to produce human growth hormone, insulin, and other compounds previously considered to be endogenous only in human beings. An intriguing possibility is that of trans-genic organisms,<sup>23</sup> where there may be an issue as to whether the organism is a human being. Even more fanciful is the recent notion that entire organisms may be created by “writing” the genome from scratch.<sup>24</sup> Other possibilities have arisen, some of which have created ethical dilemmas: opportunities for sex-selection, selection of embryos for transfer based upon genetic traits that render the person a desirable organ or tissue donor for another family member, and reproductive opportunities for people who would not ordinarily be expected to have biological children, but would be not be considered infertile ( i.e., same-sex couples, and people with “timing” issues, e.g., post-menopausal women, or persons anticipating chemotherapy or radiation therapy for cancer). To make matters more complex, religious bodies of law, such as canon law, and halakhah, or Jewish law, as well as strongly-held ethical precepts have their own effect on how society, and ultimately, courts and legislatures, look upon this new technology.<sup>25</sup>

The notion of “pre-conception intent,” or “intent-based parenting” has arisen as a result of numerous court decisions where the facts involved a dispute about parentage in the context of ART.<sup>26</sup> It has been applied to fashion exceptions to what I shall term the biological paradigm of determining legal parentage.

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<sup>22</sup> Allan Templeton, *Ooplasmic Transfer: Proceed with Care*, 346 NEW ENG. J. MED. 773, at 774 (2002).

<sup>23</sup> Rebecca S. Eisenberg, *Patenting the Human Genome*, 39 EMORY L.J. 721 (1990).

<sup>24</sup> Alexandra M. Goho, *Made to Order*. 106 TECH. REV. 51 (April, 2003).

<sup>25</sup> See, e.g., Daniel B. Sinclair, *Assisted Reproduction in Jewish Law*, 30 FORDHAM URB. L. J. 71 (2003).

<sup>26</sup> Ami S. Jaeger, *Who is the Parent? Weighing Genetics, Gestation, and Intent in Parentage*. 25 (2) FAM. ADV. 7 (Fall, 2002).

I have suggested elsewhere,<sup>27</sup> and do so again here, that we abandon use of the biological paradigm to establish the parent-child relationship, in favor of a legally significant acts paradigm. That is not to say that biological relationships are irrelevant in the determination of parental and child rights, but it is to say that such relationships should be thought of as *evidence of* certain legally significant acts that, among others, establish the parent-child relationship, as opposed to being dispositive *per se*, with the occasional (and in the area of ART law, increasingly frequent) exception. For instance, in a garden-variety paternity dispute in the non-ART world, establishing paternity would rest upon the “legally significant act” of sexual intercourse that resulted in birth of the child. The DNA test would be evidence to prove that the causal sexual intercourse took place. But in the ART world, the man denying paternity might prove other facts to explain the DNA “match,” which would be sufficient to justify a verdict of non-paternity. Or, even in the absence of a DNA “match,” other facts, such as agreeing to artificial insemination of his wife, in some jurisdictions at least, would establish as a matter of law an intent to be legally bound as the child’s father, and therefore establish paternity. Another important illustrative example is the situation where sperm is used posthumously without any previous knowledge or consent of the individual. The man from whom sperm is obtained would not be the father of a resulting child.<sup>28</sup> Persons who might come into possession of a cryopreserved embryo could not expect that the resulting child would be the child of the gamete providers unless (and even then, only possibly<sup>29</sup>) they had clearly indicated an intention to that effect.<sup>30</sup>

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<sup>27</sup> Bruce L. Wilder, *From Bastardy to Cloning: Adaptations of Legal Thought for Unorthodox Reproduction*, 26 HUMAN RIGHTS 23 (Spring 1999); Bruce L. Wilder, *Test-Tube Parents: Cryopreservation and the Fertile Corpse*, 25 FAM. ADV. 18 (Fall 2002).

<sup>28</sup> *Woodward v. Commissioner*, 760 N.E.2d 257 (2002), UPA (2002) § 707.

<sup>29</sup> UPA (2002), § 707.

<sup>30</sup> Constance Holden, *Two Fertilized Eggs Stir Global Furor*, 225 SCIENCE 35 (1984). In re Rios Cal. Super. Ct. L.A. Cty, Nos. P680682 and P680683 (1984). Elsa and Mario Rios were killed in a plane crash in 1983, intestate, and leaving frozen embryos in storage in Australia. The court in Los Angeles held that any child resulting from the embryos would not be an heir of the estate of

This new paradigm, with its emphasis on certain acts deemed significant to establish parentage will free the legislator, jurist, or advocate to resolve cases and controversies more easily, and in a more sensible, fair, and ethical way. Language in a recent case involving a dispute about parentage illustrates this sentiment rather succinctly: “Simply put, the social relationship established by the Does and their daughters is more important to the children than a genetic relationship with a stranger.”<sup>31</sup> Not everyone will agree on what acts are legally sufficient to establish the legal parent-child relationship, but resolving whatever differences do exist should be the goal as law in the area of assisted reproduction evolves. In the discussion of case law that follows, I will attempt, as a leitmotif, to demonstrate the value of abandoning the biological paradigm.

In addition to the preceding historical perspective, the reader will encounter some futurist perspective as well. The purpose of providing a glimpse into the future is primarily to emphasize the need to consider the direction of science, and in particular, reproduction technology, when formulating the relevant body of law which will govern its incorporation into society.

It is critical in arguing or deciding cases involving ART, that we be mindful of the concept that the choice of a particular technique of assisted reproduction ought to be solely a medical decision, rather than one based upon how parentage, or some other legal question, would be decided under existing law in a particular jurisdiction. Just how important this concept is will become increasingly clear as the already wide range of options available to an adult or adults for achieving some biological relationship with a future child (intended to be in a legal parent-child relationship with the adult or adults) expands even further.

For instance, I have already alluded to the discrepancy between how the case law and the UPA have treated gestational surrogates as opposed to traditional surrogates. If the wife is unable to produce eggs, or to gestate a child, a couple may decide to arrange for a surrogate mother. In a jurisdiction where the case law favors the rights of the couple over those of a gestational surrogate, but not over those of a traditional surrogate, in the

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either. In the meantime, the Australian legislature decreed that the frozen embryos could be transferred, but only following anonymous donation.

<sup>31</sup> *Prato-Morrison v. Doe*, 103 Cal. App. 4th 222, 231 (2002).



event of a dispute, the couple would have a powerful incentive to arrange for egg donation from one third party, IVF using the husband's sperm, and transfer of the embryo into another third party, the gestational surrogate, rather than the simpler, less costly, and less risky procedure of artificial insemination (AI) of a "traditional" surrogate, with the husband's sperm. Or, when a lesbian couple wishes to have a child together, the use of some technique to use an embryo containing DNA from both women ought not to be employed solely to protect the legal rights of one or both of the partners. In other words, a partner in a committed lesbian relationship, who intends to be a legal parent of a child born through ART, should not have to be a biological participant in the procreative process solely to protect her legal rights in the event of a dispute involving parental rights at some time in the future, assuming, of course, that the other partner is willing to be the only one of the couple who is biologically related to the child at the time the ART is carried out. The simplest, safest, and most inexpensive way in which a lesbian couple can have a child together is by artificial insemination of one of them by donor sperm. They should not have to resort to more involved procedures such as egg retrieval from one, IVF with donor sperm, and transfer into the other for gestation, or ooplasmic transfer to combine their DNA,<sup>32</sup> just to protect legal rights in the event of a future dispute that turns on parentage.

## II. The "Right to Procreate"

Black's Law Dictionary defines procreation as "the generation of children."<sup>33</sup> Other definitions are equally vague, and do not explicitly reflect a contemplation of whether, or to what degree, a genetic link is required.<sup>34</sup> I have suggested in a previous

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<sup>32</sup> See *supra*, note 22.

<sup>33</sup> BLACK'S LAW DICTIONARY, p. 1086 (5th Ed., 1979). The more recent Seventh edition does not even list "procreation."

<sup>34</sup> Procreate, "To beget; to produce by the sexual act, said usually of the male parent," STEDMAN'S MEDICAL DICTIONARY, p. 1451 (27th ed., 2000); "The entire process of bringing a new individual into the world," DORLAND'S MEDICAL DICTIONARY, p. 1357 (28th ed., 1994).

publication,<sup>35</sup> that the term procreation include deliberate actions by an individual, which lead to birth of a child, whom that individual intends to raise as his/her child from the time of birth to maturity, and to be legally bound as the child's parent, even when the genetic material was obtained by that individual from a source outside his/her body. Since then, case law and comment in the area of ART law, seem to have applied the "right to procreate" concept to ART in general, and not required a biological connection between adult and future child.

Whether the donation of gametes, or giving birth to a child as a surrogate mother, is procreation—for instance, when there is no intent to become a legal parent (and even a reliable expectation to *not* be a legal parent)—I will for the moment leave unanswered. In any event, whatever procreation means, the "rights" to procreation in these classes of individuals are significantly more limited by the state.

Forced sterilization has been equated with deprivation of a basic liberty.<sup>36</sup> In discussions about assisted reproduction, there is often reference to a "right to procreate," and a "right not to procreate." Possibly these rights evolved from the language of Justice Brennan's opinion in *Eisenstadt v. Baird*: "If the right of privacy means anything it is the right of the individual, married or single, to be free from *unwarranted* [italics added] governmental intrusion into matters so fundamentally affecting a person as the decision to bear or beget a child."<sup>37</sup> It is important to remember that this doctrinal constitutional "right to procreate or not procreate," at least inasmuch as it has derived from *Eisenstadt*, is, more properly, a *privacy* right, and not an entitlement to treatment of infertility, or to have, or not have, a biologically-related child. Limitations on the "right" to procreate, if indeed it is an

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<sup>35</sup> Bruce L. Wilder, *Defining the Legal Parent-Child Relationship in Alternative Reproductive Technology*, American Bar Association, Section of Family Law, 30 (1991).

<sup>36</sup> *Skinner v. Oklahoma*, 316 U.S. 535 (1942).

<sup>37</sup> *Eisenstadt v. Baird*, 405 U.S. 438, 453 (1972). This concept in *Eisenstadt* had its roots in *Skinner v. Oklahoma*, 316 U.S. 535, and later *Griswold v. Connecticut*, 381 U.S. 479 (1965).

entitlement at all, can be supported by policy considerations,<sup>38</sup> or as part and parcel of a more general loss of rights.<sup>39</sup>

### III. Types of Assisted Reproduction Technology

#### A. *In Vitro Fertilization (IVF)*

In general medical parlance, *in vitro* refers to a biological process that ordinarily takes place within the body of a living organism, as taking place outside the body, or literally, “in glass,” i.e., in a Petri dish or other laboratory receptacle. Louise Brown, the world’s first IVF baby, was born in 1978 in England. Almost immediately, visions of embryo farms, as described in Huxley’s 1938 novel, *Brave New World*,<sup>40</sup> swirled about in the public consciousness. The term “test-tube baby” became part of our vocabulary. This was an unfortunate term, since it gave many the impression that gestation as well as fertilization occurred outside the body. This technique involved the fertilization of a human egg by human sperm outside the body, and transfer of the embryo to the uterus for implantation. It permitted women who were unable to achieve pregnancy by sexual intercourse, most commonly because of disease of the Fallopian tubes (where fertilization normally occurs), but who could still produce eggs to bear a child. It was not long before embryos produced by IVF using sperm and/or eggs from third parties, i.e., donors, were transferred into the intended mother, or that embryos produced by IVF using gametes (sperm or eggs) from one or both of the intended parents, were transferred into a so-called gestational surrogate, i.e., a woman who would have no genetic relationship to the child, and who was hired by a person or couple to bear the child, but not be the child’s parent. IVF made it possible for lesbian couples to have children biologically related to both of them. That is, eggs could be retrieved from one of the woman, fertilized *in vitro* from donor sperm, and transferred to the other

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<sup>38</sup> Laura Shanner, *The Right to Procreate: When Rights Claims Have Gone Wrong*, 40 MCGILL L.J. 823 (1995).

<sup>39</sup> *Gerber v. Hickman*, 291 F.3d 617 (9th Cir. 2002), *cert. denied*, 123 S.Ct. 558 (2002). Gerber, imprisoned for life without a right to conjugal visits, or the possibility of parole, was denied the right to transmit sperm outside the prison for the purpose of impregnating his wife.

<sup>40</sup> Aldous Huxley, *Brave New World* (1932).

woman, who, although having no genetic relationship to the child, would bear the child, and thus have a strong maternal bond to the child, albeit not genetic.

### 1. *Embryo or Gamete Mix-ups*

Everyone has heard stories about infants accidentally switched in a nursery, and raised for years by non-suspecting non-biological parents. The potential for accidentally transferring the wrong embryo is perhaps even greater.<sup>41</sup> Procedures to thoroughly safeguard against transfer of the wrong embryo are possible, but are costly and may involve some risk to the success of the transfer. A clear standard of care for the prevention of mistaken transfer has not been enunciated. A California couple whose embryo from donor egg and husband sperm was mistakenly transferred into a single woman who thought she was getting anonymous donor egg and donor sperm, has sued for “custody” of the child, and the single woman who gave birth to the child has sued the medical facility. This, and other permutations of embryo mix-up, present a “unique challenge in defining maternity and parentage.”<sup>42</sup> There are situations where a court would prohibit a revisitation of the issue of biological parentage for reasons of public policy. The passage of several years and a previous monetary settlement for mistaken or otherwise wrongful transfer of a couple’s embryos to another person would seem to be sufficient.<sup>43</sup>

In arguing and deciding such cases, attorneys and courts, after a careful examination of the facts, may have to parse issues of parentage, standing to sue for custody or visitation, or evidentiary considerations, as well as potential civil and possibly criminal liability on the part of both participants and/or providers. The *Prato-Morrison* court seems to have enunciated a “best in-

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<sup>41</sup> See, e.g., Raizel Liebler, *Are You My Parent? Are You My Child? The Role of Genetics and Race in Defining Relationships After Reproductive Technological Mistakes*, 5 DEPAUL J. HEALTH CARE L. 15, 25 (2002) (Footnote 26, noting “An unnamed HFEA [Human Fertilization and Embryo Authority] inspector estimated that at least 100 women have had problems with IVF problems, including implantation with incorrect embryos. Lois Rogers, *Women given wrong embryos at IVF clinics*, SUNDAY TIMES (London), Nov, 12, 2000.”

<sup>42</sup> Susan L. Crockin, in *Legally Speaking*, 36 ASRM NEWS 4 (Winter 2002).

<sup>43</sup> See *Prato-Morrison v. Doe*, 103 Cal. App. 4th 222 at 230.

terests of the child” standard in determining not only issues of custody, but of legal parentage.<sup>44</sup>

Often, mix-ups of embryos or gametes only come to light when the genetic difference involves race, and is thus readily apparent.<sup>45</sup> In a recent case in England, the sperm of a black man was mistakenly used to fertilize the eggs of a white, married woman, who gave birth to twins. The High Court family division ruled that the black man was the children’s legal father, but the children were to remain in legal custody of the white couple.<sup>46</sup>

## 2. Reshuffling of DNA

The removal of nuclear haploid DNA (the nuclear DNA contained in an egg), and transfer into the cytoplasm of another woman’s egg, from which its own nuclear DNA had been removed, has been employed, based upon the idea that there is something about the cytoplasm, or non-nucleus part of the cell, that makes ordinary (in vitro or in vivo) fertilization fail to result in successful pregnancy. The resulting “synthetic” egg would then contain the haploid DNA from one woman, and the mitochondrial, or cytoplasmic, DNA (mDNA) from another woman, thus having a genome whose makeup derived from both women (only one of whom, usually the one who contributed the nuclear DNA, intended to be the child’s parent).<sup>47</sup> There are valid medical reasons for using this process of intracytoplasmic transfer of DNA, but its employment solely as a method of achieving a genome derived from both women (whether for legal reasons, or matters of personal preference) who intend to be the child’s parents would raise significant ethical concerns.

A similar procedure, that of ooplasmic transfer, already referred to above, permanently alters the genome of the recipient

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<sup>44</sup> See Note 31, 231, *supra*.

<sup>45</sup> See Note 41, 24, *supra*.

<sup>46</sup> Sarah Lyall, *British Judge Rules Sperm Donor Is Legal Father in Mix-Up Case*, N.Y. TIMES, Feb. 27, 2003, at A5.

<sup>47</sup> John A. Robertson, *Reconstituting Eggs: The Ethics of Cytoplasm Donation*, 71 FERTILITY AND STERILITY 219 (1999).

egg-embryo. Just what effect this technique has on the resulting child is as yet unclear, but it is clearly still experimental.<sup>48</sup>

Another technique, that of so-called haploidization, not yet known to have been used in human beings, involves injection of DNA from a somatic cell into an egg, and then re-programming the DNA to undergo a reduction division, so that, in effect an artificial gamete (egg or sperm) is created, presumably with reproductive potential. In essence, this procedure in some ways parallels the process by which spermatogenesis or oogenesis occurs in the human testis of ovary, respectively. More simply put, this technique of artificial haploidization would enable a sperm or egg to be made with DNA obtained from an adult somatic cell (white blood cell, liver, heart, skin, etc.).<sup>49</sup>

### B. Cryopreservation

Cryopreservation, i.e., the freezing and storage of biological material, with preservation of viability after thawing, has created the potential for numerous legal issues, because it permits enormous latitude in how genetic material can be used to create human life.<sup>50</sup> It is generally believed that the risk of damage in cryopreservation is in the freezing or thawing processes, and that the time period of storage over which viability can be retained is virtually unlimited, assuming that proper temperature can be maintained. The techniques of cryopreservation of human sperm evolved as a natural outgrowth of experience in cryopreservation of sperm, usually cattle, in animal husbandry.

While the stimulus for the development of cryopreservation of human reproductive tissue appears to have been primarily one of convenience and efficiency, another benefit is that it gives the physician time to determine if the sperm donor has any commu-

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<sup>48</sup> Allan Templeton, *Ooplasmic Transfer: Proceed with Care*, 346 *NEW ENG. J. MED.* 773, at 774 (2002). This article reports that thirty children, all apparently normal, had been born using this technique.

<sup>49</sup> Orly Lacham-Kaplan, et al, *Fertilization of Mouse Oocytes Using Somatic Cells as Male Germ Cells*. 3 *REPRODUCTIVE BIOMED. ONLINE* 205-11 (2001); Jan Tesarik, et al. *Fertilizable Oocytes Reconstructed from Patient's Somatic Cell Nuclei and Donor Ooplasts*. 2 *REPRODUCTIVE BIOMED. ONLINE* 160-4 (2001).

<sup>50</sup> See generally, Monica Shah, *Modern Reproductive Technologies: Legal Issues Concerning Cryopreservation and Posthumous Conception*, 17 *LEGAL MED.* 547 (1996).

nicable diseases, or if the embryo is one with serious genetic defects. The drawback, however, is that pregnancy rates using cryopreserved embryos are lower.

### 1. Sperm

By the middle of the twentieth century, cryopreservation of human sperm, and storage in sperm banks became commonplace. Because sperm preserved in frozen semen could be tested for disease before use, shipped anywhere in the world, used years after its production, and marketed based upon the traits of its "producer," its use to produce children to whom the sperm-provider is not only not a legal parent, but anonymous, has continued to expand.<sup>51</sup> It is truly astonishing that there are still some states without statutory law dealing explicitly with parentage issues in sperm donation.<sup>52</sup>

### 2. Embryos and Eggs

As a result of the experience gained with cryopreservation of sperm, embryo cryopreservation began to be widely used, primarily because drugs to stimulate ovulation might result in the retrieval of, say, fifteen eggs, all of which could be then fertilized in vitro (because cryopreservation of the unfertilized egg is difficult and associated with high degree of failure), with the transfer of two or three, and cryopreservation of the rest, for use at later time, if necessary. While this practice obviates the need for multiple invasive procedures for egg retrieval, it has resulted in large numbers of cryopreserved embryos in storage. Stored embryos have presented some perplexing legal and ethical issues. For the most part, these legal and ethical issues result from the fact that it is an embryo which has been cryopreserved, rather than sperm or egg. An embryo contains the full and unique genome of a potential human being, with all his or her traits. The reason why embryos are frozen, as opposed to eggs and sperm, for later IVF after thawing, is two-fold: retrieval of eggs from a woman involves an invasive procedure, with inherent risks, so it makes more sense to give an ovulation-inducing drug so that, say, ten to

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<sup>51</sup> See, for example, Carson Strong, *Ethical and Legal Aspects of Sperm Retrieval after Death or Persistent Vegetative State*, 27 J. LEGAL MED. AND ETHICS 347 (1999).

<sup>52</sup> See *supra* note 13.

fifteen eggs can be harvested in one procedure, rather than just one or two if the drug is not given; and embryos withstand the cryopreservation process much better than eggs. It has only been very recently that eggs have been cryopreserved to later result in healthy live birth, and even then, the statistics are not nearly as good as with embryos. Very recently, experiments in animals have indicated that cryopreservation of nuclear material and zygote reconstruction by nuclear transfer, may present an alternative to egg cryopreservation.<sup>53</sup>

In a number of cases, issues surrounding the disposition of frozen embryos have arisen in connection with divorce. The initial case, *Davis v. Davis*,<sup>54</sup> did not involve a contract, and the court ruled that, in the absence of a valid contract, a dispute about possession and control<sup>55</sup> of frozen embryos would ordinarily be resolved in favor of the party who did *not* want the embryos transferred and gestated to term, either by the other party, or by a third party. That is, the party wishing cryopreserved embryos to be kept in storage indefinitely or destroyed would prevail. By the time the Tennessee Supreme Court decided the *Davis* case, the ex-wife had remarried and no longer wished to have the embryos transferred to herself, but opposed destruction, in favor of donation to an unspecified third party for transfer and gestation. Therefore, the case, as originally framed, had become moot. Another aspect of *Davis* is that the opinion contained language to the effect that the party wishing to have possession and control of the embryos in a similar fact situation might prevail if he or she no longer had the capacity to reproduce.<sup>56</sup>

While the *Davis* opinion called for contracts between each of the couple and between the couple and the facility, to avoid disputes about frozen embryos, the existence of a contract in sub-

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<sup>53</sup> Zhiying He, et al, *Cryopreservation of Nuclear Material as a Potential Method of Fertility Preservation*. 79 *FERTILITY & STERILITY* 347-354 (2003).

<sup>54</sup> 842 S.W.2d 588 (Tenn. 1992).

<sup>55</sup> It is strongly urged that use of the term, "custody" be avoided in discussion of disputes over frozen embryos, since it is a term of art, relating to the status of children.

<sup>56</sup> "Ordinarily, the party wishing to avoid procreation should prevail, assuming that the other party has a reasonable possibility of achieving parenthood by means other than use of the preembryos in question." *Davis v. Davis*, 842 S.W.2d at 604. (Tenn. 1992).



sequent cases has merely shifted the debate to one over the terms of the contract itself, or to one of whether, as a matter of public policy, the contract ought to be enforced at all.<sup>57</sup> In addition, it has been proposed that the law should imply into any such contract that a couple who produce and store cryopreserved embryos for possible future use do so conditioned on their raising the child together. “In light of the fact that the gamete providers are equal contributors to the creation of the embryo, with equal power over it, embryo use by either party without consent of the other, to do anything other than creating and parenting a child together should be prohibited.”<sup>58</sup>

In a nutshell, it is fair to say that the courts that have decided these cases have invariably come down on the side of denying possession and control of embryos to the party wishing to transfer them for gestation and birth. If the contract favors that decision, then it is held to be valid and enforceable.<sup>59</sup> If it does not, it is held to be unenforceable.<sup>60</sup> An interesting case would be that of an indisputably valid contract to permit embryo transfer after divorce, over the objections of the other gamete provider, in a state, say New York, which has upheld the validity of such contracts. In addition, we have yet to see the case based on the possible scenario suggested in the *Davis* opinion, where the fate of embryos formed from a gamete provider who is no longer able to produce more embryos, and who wants those embryos transferred and brought to term, is at issue. The UPA would establish parentage in an ex-spouse if the ex-spouse had consented in a writing, but withdrawal of consent before insemination or embryo transfer (“placement of eggs, sperm, or embryos”) would mean that no parent-child relationship would exist between the child and the ex-spouse (or other gamete-provider, if the gamete providers were unmarried, but had initially intended to be the

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<sup>57</sup> See, e.g., Jeremy L. Fetty, *A “Fertile” Question: Are Contracts Regarding the Disposition of Frozen Preembryos Worth the Paper Upon Which They are Written?*, 2001 L. REV. MICH. ST. U. DET. C. L. 1001.

<sup>58</sup> Robyn S. Shapiro, *Who Owns Your Frozen Embryo? Promises and Pitfalls of Emerging Reproductive Options*, 25 HUM. RTS. 12 (Spring 1998).

<sup>59</sup> *Kass v. Kass*, 696 N.E.2d 174 (N.Y. 1998).

<sup>60</sup> *A.Z. v. B.Z.*, 725 N.E.2d 1051 (Mass. 2000); *J.B. v. M.B.*, 331 N.J. Super. 223; 751 A.2d 613 (N.J. Super. Ct. App. Div. 2000), *aff’d as modified*, 783 A.2d 706 (N.J. 2001).

parents of the child).<sup>61</sup> How a court would treat the non-consenting gamete-provider where transfer had occurred without consent is open to question, but I would expect that parentage would not be established over the objections of the non-consenting gamete-provider. Whether, in that circumstance, some civil action on the part of the non-consenting gamete-provider would lie against the person or persons who participated in the transfer, is also open to question. If a right to such civil action (such as intentional infliction of emotional distress, or deceit) is held to exist, a court will have to deal with the policy implications of using the very existence of a human being as evidence of a wrong, a concept somewhat akin to one which has largely been rejected in the “wrongful life” decisions.<sup>62</sup>

If one of the ex-spouses did not provide a gamete for the formation of the embryo, she may still have a contractual right to control its disposition.<sup>63</sup> Although the case law seems to say that the right *not* to procreate is superior to the right *to* procreate, as between progenitors, it seems anomalous to permit a non-progenitor party to trump the decisional authority of a progenitor, at least where the parties have divorced.<sup>64</sup> But suppose the progenitor, married to the non-progenitor, wishes to gestate the embryo against the wishes of the non-progenitor/spouse. Under *Litowitz*, the non-progenitor may have a contractual right to prevent gestation of the embryo.<sup>65</sup> If the child is born in violation of a contract, a likely source of law for determining parentage would be that in which a child born out of wedlock would *not* become the

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<sup>61</sup> UPA 2002, § 707, and comment.

<sup>62</sup> See F. Allan Hanson, *Suits for Wrongful Life, Counterfactuals and the Nonexistence Problem*, 5 S. CAL. INTERDISC. L. J. 1 (1996)

<sup>63</sup> *Litowitz v. Litowitz*, 48 P.3d 261 (Wash. 2002). *cert. denied*, U.S. Supreme Court, No. 02-916, 29 FLR 1375 (2003). Astonishingly, the Washington Supreme Court “with the unerring precision of a moth to the flame . . . [with] errant reliance on, and misinterpretation [of the contract]” (See the dissent of Sanders, J., at 272), interpreted the contract between the Litowitz’s to favor destruction of the frozen embryos. Once again, if the contract is interpreted to result in destruction of the embryos, it is held to be valid and controlling.

<sup>64</sup> At first blush, this reasoning may appear to be a return to the “biological” paradigm. Although the source of the gamete is assumed to be determinative of decisional authority over the embryo (where the other gamete provider is not a party), it is not being used, by itself, to determine parentage, and therefore does not conflict with the “legally significant acts” paradigm.

<sup>65</sup> This is so in Washington. *Litowitz*, at 271.

child of the non-consenting non-progenitor. It has been suggested, by implication, that executory contracts for the disposition of frozen embryos be void, or at least voidable.<sup>66</sup>

### C. Collaborative Reproduction

Collaborative reproduction refers to the involvement in the assisted reproductive process of persons (excluding health care providers) other than the couple or individual who intends to be the child's legal parent or parents. Examples of collaborative reproduction would be where there is a donor of sperm, egg, or embryo, or where a woman is hired to gestate a child pursuant to a surrogacy contract, or "gestational agreement." Another example might be ooplasmic transfer, described above.<sup>67</sup> The concept of collaborative reproduction is relatively recent, and it emphasizes the need to more clearly make a distinction between biological parentage and legal parentage.<sup>68</sup>

The participation of persons outside the marriage or other family unit which is anticipated to provide legal parentage and the rearing environment for the child brings with it the potential for disputes that can involve the child, even when the family unit is otherwise intact. The key here is careful adherence to the statutory requirements in the jurisdiction, and when the statute is absent or vague, the documentation of informed consent and the making of contracts, based upon established law in similar jurisdictions, or on the requirements set out in the UPA, to the extent that those provisions do not conflict with law in the jurisdiction.

#### 1. Donors

The term "donor" generally refers to a person providing sperm, egg, or other reproductive material for assisted reproduction, but who intends not to have any legal relationship to the resulting child, without regard to whether money changes hands. In many cases, unfortunately, the intentions of the donor and intended parent or parents are not always clear, even in their own minds. A casual approach prior to birth of the child, as to exactly

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<sup>66</sup> George Annas, *Ulysses and the Fate of Frozen Embryos: Reproduction, Research, or Destruction?* 343 *NEW ENG. J. MED.* 373 (2000).

<sup>67</sup> See *supra* note 22.

<sup>68</sup> See, e.g., Helen M. Alvaré, *The Case for Regulating Collaborative Reproduction: A Children's Rights Perspective*, 40 *HARV. J. LEGIS.* 1 (2003).

196 *Journal of the American Academy of Matrimonial Lawyers*

what the relationship between the donor and the child will be, can lead, and has led, to ugly and protracted litigation.<sup>69</sup>

2. *Secrecy*

The question of whether, and how, parents who have used assisted reproduction should so inform their children may be difficult. An even more difficult issue, from both a legal and medical standpoint, is the tension between the expectations of anonymity on the part of some donors at the time of the donation, and the desire, several years later, of the child to know the donor's identity. While the initial motivation of the child to learn the donor's identity may be psychological, or to learn medical facts which may be pertinent to the child's health or health care, the potential for powerful incentives for them to assert some legal right as against the donor based upon the genetic tie must be considered. Persons contemplating disclosure should be advised of the possible unwanted or undesirable possibilities that might unfold.<sup>70</sup>

3. *Surrogacy*

A surrogate mother is a woman who permits herself to be impregnated non-coitally (either by artificial insemination, or by embryo transfer), and who bears a child at the request of an individual or couple who intends or intend to be the child's parent or parents, but who herself does not intend to be its mother, i.e., intends to surrender (or never to have) parental rights at the time of birth. The story of Abram and Sarai, and Sarai's handmaiden, Hagar, in Genesis, is often cited as the earliest recorded case of surrogacy. In fact what happened was that Abram, at the behest of his wife Sarai, impregnated Hagar coitally, with the plan being that the child would be the child of Abram and Sarai. For whatever reason, Sarai later had a falling out with Hagar.<sup>71</sup>

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<sup>69</sup> See, e.g., Richard F. Storrow, *Parenthood by Pure Intention: Assisted Reproduction and the Functional Approach to Parentage*, 53 HASTINGS L. J. 597 (2002).

<sup>70</sup> See, e.g., Jenna H. Bauman. Note, *Discovering Donors: Legal Rights to Access Information About Anonymous Sperm Donors Given to Children of Artificial Insemination*, 31 GOLDEN STATE U. L. REV. 193 (2001).

<sup>71</sup> Bruce L. Wilder, *From Bastardy to Cloning: Adaptations of Legal Thought for Unorthodox Reproduction*, *supra* note 27.

A “traditional” surrogate, is a woman who agrees to be impregnated by means artificial insemination, and to give birth to a child, in accordance with an agreement with a person or couple wishing to the legal parents of the child, and to raise the child as their own. The surrogate has presumably agreed ahead of time that she will not be a parent of the child, even though the child was conceived using her egg. A “gestational” surrogate, is essentially the same, except that she does not become pregnant by insemination, but by transfer of an embryo, not derived from her egg, into her uterus for gestation and birth, also with the understanding ahead of time that she will not be the child’s parent.

For the most part, the cases have treated gestational surrogates and traditional surrogates quite differently. Since a gestational surrogate has no genetic link to the child, the case law indicates that she generally has a much smaller chance of asserting any rights as to the child, should she, for any number of reasons, experience a change of heart during the surrogacy process. A traditional surrogate, on the other hand, is more likely to retain maternal rights under those circumstances.<sup>72</sup> On the other hand, the UPA 2000 (revised 2002) does not distinguish between a gestational and a traditional surrogate. It should be kept in mind, however, that the UPA 2000 (revised 2002), like one of its predecessors, the Uniform Status of Children of Assisted Conception Act (USCACA) of 1988, has thus far had very limited acceptance by state legislatures, as regards the surrogacy provisions.<sup>73</sup>

In a jurisdiction that allows for no parental rights in an egg donor, and with maternity in the female who intends to be legally bound as a parent, the “traditional” surrogate might be considered an egg donor who also happens to be a gestational surrogate, and thus no more likely to have a right of parentage than a gestational surrogate, or than an egg donor. The UPA, in treating gestational and traditional surrogates equally (“gestational mother”<sup>74</sup>), seems to acknowledge this position.

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<sup>72</sup> See, e.g., *Johnson v. Calvert*, 85 P.2d 776, 786 (Cal. 1993) (drawing a distinction between traditional and gestational surrogacy).

<sup>73</sup> See *supra* notes 12, 15, and 16.

<sup>74</sup> “Gestational mother” means an adult woman who gives birth to a child under a gestational agreement. UPA (2002), § 102. Definitions. (11). Comment to Section 802 explicitly notes that “there is no requirement that at least one of

#### D. *Posthumous Reproduction*

For purposes of this paper, posthumous reproduction does not include the scenario where a woman is impregnated coitally, but gives birth after the death of the child's father, or after her own death. Also for purposes of this paper, the term, *posthumous conception*, refers to the formation of an embryo after the death of one or both gamete-providers. The term "posthumous reproduction" will refer to the entire process of producing a child from the point that a gamete exists after the death of its progenitor, or that an embryo, not yet transferred, exists after the death one or both progenitors, to the point of live birth. The direct, or indirect,<sup>75</sup> retrieval of sperm or eggs from deceased persons, with subsequent fertilization, or from living persons, with fertilization after death, is posthumous conception. The successful transfer of embryos after the death of one or both progenitors, and resulting in live birth, is posthumous reproduction, even though the embryo may have been formed before the death of either progenitor. Cryopreservation greatly expands the time window for posthumous reproduction, but is not necessary for it to occur.

There may be differing views of when conception occurs. Within the universe of coital reproduction, some may place conception at the time of sexual intercourse, while others may say that it occurs at the time of fertilization, and still others may consider it to have occurred at the time that the fertilized egg is implanted in the wall of the uterus. I voice no opinion on when conception occurs, from a moral, philosophical, or religious standpoint. However, for purposes of clarity and uniformity of understanding, the reader should assume that, for the purposes of this paper, conception occurs when the egg is fertilized, i.e., when the embryo is formed.

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the intended parents be genetically related to the child born of a gestational agreement" and that "the likelihood that the gestational mother will also be the genetic mother is not directly addressed [in the 2002 UPA]."

<sup>75</sup> Spermatoocytes may be obtained from the testis, frozen, and transplanted into another person, ultimately with retrieval of sperm derived from the donor's genome. In the unlikely event that, in the near future, an "embryo" is formed by the cloning technique of somatic cell nuclear transfer, resulting in live human birth, the resulting child would be considered to have been posthumously reproduced if the "embryo" were transferred after death of the progenitor. If the progenitor's death occurred after transfer of the embryo, but before the child's birth, the *reproduction* would not be posthumous.

Attempts by children born by posthumous reproduction to obtain Social Security benefits have had limited success. The administrative law generally looks to state law for existence of a legal parent-child relationship in determining eligibility for Social Security benefits.<sup>76</sup> While a genetic relationship would clearly exist, and thus might be presumed to establish a legal parent-child relationship, courts, and common sense, have been reluctant to adopt such a concept by relying on law that developed before posthumous reproduction was possible or even thinkable. In *Woodward v. Commissioner*,<sup>77</sup> the court held that posthumous reproduction could create a parent-child relationship, but under rather limited circumstances. The UPA permits, but does not explicitly provide for, the creation of a parent-child relationship, presumably without limit, if the decedent had specifically consented to the posthumous reproduction in a writing.<sup>78</sup> Interestingly, the predecessor (1988) Uniform Status of Children of Assisted Conception (USCACA) explicitly notes "An individual who dies before implantation of an embryo, or before a child is conceived other than through sexual intercourse, using the individual's egg or sperm, is not a parent of the resulting child."<sup>79</sup> In a case where a substantial estate is at stake, the case against permitting a posthumously conceived child to be the legal child of the decedent is likely to be formidable.<sup>80</sup>

The extraction of sperm from recently deceased individuals, or the use of ova obtained from the ovaries of dead fetuses, remains controversial, and surrounded by serious ethical concerns.

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<sup>76</sup> In *In re Estate of Kolacy*, 753 A.2d 1257 (N.J. Super. Ct. 2000), the Court found that Kolacy's posthumous children were entitled to Social Security benefits, but, curiously, nowhere in the opinion is there an explicit statement that a parent-child relationship exists, and the legal basis for heirship is not clear. Cases in Louisiana and Arizona have denied benefits, based upon a determination that no legal parent-child relationship was created by the posthumous reproduction. See *Hart v. Commissioner*, and *Gillett-Netting v. Barnhart*, 231 F. Supp.2d 961 (D. Ariz.). In *Hart*, benefits were subsequently granted, despite a legal finding that Judith Hart was not the legal child of the deceased, Edward Hart.

<sup>77</sup> *Woodward v. Commissioner*, 760 N.E.2d 257 (Mass. 2002).

<sup>78</sup> UPA (2002) § 707.

<sup>79</sup> USCACA, 9C U.L.A., § 4.(b)(2001).

<sup>80</sup> See *Hecht v. Superior Court*, 16 Cal. App. 4th 836 (1993), in which the court refused to enforce a will devising frozen sperm to a woman, when the man's children objected. *Hecht* is discussed more fully *infra* in text at note 89.

The propriety of using gametes obtained from recently deceased, or severely and permanently injured adults, is largely dependent on issues of consent. Whether consent could be established for use of the gametes alone, without establishing parentage in the deceased remains to be seen.<sup>81</sup>

The limitations on the power to procreate,<sup>82</sup> in persons who are incompetent (i.e. unable to consent to use of their gametes, or stored embryos), or whose rights have been limited by the state for unrelated reasons (e.g., certain classes of prisoners) may be considered akin to the limitations on the power of dead persons to procreate. A man imprisoned for life without the possibility of parole, and without the right to conjugal visits, was denied permission to transmit his sperm to his wife for artificial insemination.<sup>83</sup>

## IV. Policy Issues of Assisted Reproduction

### A. *Embryos and Gametes as Property*

Ownership and alienability of gametes and ova are not easily determined by making analogies to traditional property law. Neither embryos nor gametes are people,<sup>84</sup> but they are viable human tissue. Moreover, they represent a unique form of human tissue. Gametes (at least in the world before somatic cell nuclear transfer (SCNT)) represent the exclusive and essential link in the passage of traits from living persons to form new and absolutely unique human tissue, i.e. embryos, which, in turn have the potential to form new human life, with characteristics at the time of birth determined, in large part, at the time of conception. That is, this “tissue” has biological attributes that determine traits later manifested in the resulting child. The ability to freeze and store embryos and gametes for several years, combined with

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<sup>81</sup> See generally, Michelle A. Brenwald and Kay Redeker, Note, *A Primer on Posthumous Conception and Related Issues of Assisted Reproduction*, 38 WASHBURN L.J. 599 (1999).

<sup>82</sup> As “procreate” is defined above.

<sup>83</sup> *Gerber v. Hickman*, 264 F.3d 882 (9th Cir. 2001), *rev'd on reh'g en banc*, 291 F.3d 617 (9th Cir. 2002), *cert. denied*, 123 S.Ct. 558 (2002).

<sup>84</sup> LA. STAT. ANN. § 9:126 (West Supp. 1990). “An in vitro fertilized human ovum [embryo] is a biological human being which is not the property of the physician which acts as an agent of fertilization, or the facility which employs him or the donors of the sperm or ovum [italics added].”



the unique features of these kinds of “tissue,” provide the setting for the many novel issues that have arisen in this area of the law.

If one considers these entities as simply personalty, i.e. like a diamond ring, or a car, ownership may be transferred by gift, sale, inheritance or testamentary devise. Indeed, all these things are possible with gametes or embryo almost. As this section explains below, the transfer of gametes or embryos by sale or gift is generally permitted, but transfer by will or inheritance is generally not. Rather than make a list of the various means of the transfer, and decide which attributes should be permitted to be transferred for each category, and which should be prohibited, I suggest that making a rule about what attributes are, or should be, transferred by any means is simpler and more practical. The case law has not always clearly enunciated under what circumstances gametes or embryos change hands without the incidents of parentage and heirship, and when they do.

In the case of egg or sperm donation,<sup>85</sup> there is (usually) a clear understanding that there are no parental rights or responsibilities included in the transfer, and that the donor relinquishes all claim to any rights.<sup>86</sup> Statutory and case law has dealt with these now rather common contingencies in some jurisdictions, but not in others. In the case of transfer by will, or by inheritance, there has been no clear assumption that parental rights are not transferred. In fact, there seems to be a general tendency to assume parentage would go with frozen sperm as a gift prior to death, where the sperm remained in storage at the time of death.<sup>87</sup> Stored embryos from a couple who died intestate in a plane crash were held not to be future heirs, both in a court pro-

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<sup>85</sup> Note that “donor,” as used throughout this paper, does not imply a gift as opposed to a sale: it means that the sperm or egg provider is not intended to have any legal relationship to the child.

<sup>86</sup> Whether the donor has any right to learn the identity of the child or to seek visitation with, or some social relationship to the child has been questioned in some cases. Whether a donor who has relied on a promise of anonymity would always be protected is also not entirely clear, either. See, e.g., Lucy R. Dollens, Note, *Artificial Insemination and the Difficulty in Maintaining Donor Anonymity*, 35 IND. L. REV. 213 (2001).

<sup>87</sup> *Hall v. Fertility Inst. of New Orleans*, 647 So.2d 1348 (La. Ct. App. 4th 1994). This case considered the validity of a gift, prior to death, of frozen sperm still in a cryopreserved state at the time of death.

202 *Journal of the American Academy of Matrimonial Lawyers*

ceeding in Los Angeles, and by legislative action in Victoria, Australia.<sup>88</sup>

In *Hecht v. Superior Court*,<sup>89</sup> the court held that cryopreserved sperm could not be transferred by will. It is the belief of this writer, that if the law were crystal clear that no parental or inheritance rights were transferred with the sperm, despite the clear intent expressed in Hecht's will, the court could have easily permitted Hecht's girlfriend to have his frozen sperm. The courts are ambivalent about the extent that posthumous conception establishes a parent-child relationship. This is illustrated by the "Social Security" cases. In those cases, the facts are similar: a husband becomes ill with a malignant disease, and has sperm cryopreserved before undergoing chemotherapy, perhaps hoping that he will survive and be able to raise his children, but possibly explicitly contemplating death in the near future, and the sperm is used to impregnate his wife after his death. The court is faced with a young widow, often of limited means, with young children, who is seeking Social Security benefits for children conceived posthumously, and no other individuals stand to gain or lose by the court's decision.<sup>90</sup> In *Hecht*, at issue was a sizable estate, with other existing children who stood to lose if Hecht's girlfriend gave birth to his child.

As a matter of policy, it seems important to establish clear parameters regarding the creation (or non-creation) of parentage in posthumous and post-competency gamete retrieval, insemination, or IVF. The policy question becomes one of what a parent-child relationship is supposed to be: is it primarily a nurturing relationship, both social and economic, as to the relation between individuals and between the individual and society, or is it solely as a method to transfer wealth and entitlements? The UPA does give considerable latitude to the establishment of posthumous parent-child relationships.<sup>91</sup>

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<sup>88</sup> See *supra*, note 30 and accompanying text.

<sup>89</sup> *Hecht v. Superior Court*, 50 Cal. App. 4th 1289 (1996); *Kane v. Superior Court*, 37 Cal. App. 4th 1577 (1995); *Hecht v. Superior Court*, 16 Cal. App. 4th 836 (1993).

<sup>90</sup> See *Wilder supra*, note 27.

<sup>91</sup> UPA (2002) § 707. See *supra*, note 12.

## B. Eugenics

The history of the term “eugenics” is haunted with the ghosts of forced sterilization, mass murder, and other work of states gone out of control. If one considers that eugenics is a method of bettering the phenotypic attributes of a given genus and species through deliberately influencing the development of the genome, it does not sound like such an invidious undertaking. Obviously, individuals and societies will differ as to what the most desirable attributes are. Typically, when eugenics has reared its ugly head throughout history, it has been when the state has gotten involved. Professor Alexander Capron has asserted that “eugenics poses no great danger until it is backed up by the power of the state, well meaning or otherwise.”<sup>92</sup>

Arguably, assisted reproduction is a method of eugenics, pure and simple. The demand for assisted reproduction exists because people want to have, raise, and be succeeded by, children with a genetic make-up that is viewed by them as more desirable than that which would be possessed by another child. State regulation of the medical practice of assisted reproduction should thus be limited to ensuring safe and ethical practices, without attempting to influence the character of the genome itself. Inevitably, however, the distinction is not always an easy, or even possible, one.

### 1. *Prevention of Genetically Inherited Disease*

The use of pre-implantation genetic diagnosis (PGD) permits couples at risk to have children with severe genetic defects to avoid such contingencies. Only embryos without the defect would be transferred, and embryos with the defect could be destroyed before transfer, thus avoiding the dilemma of considering abortion when the diagnosis only becomes clear during the pregnancy. This method of embryo selection is not always effective, but is an acceptable and desirable practice. Indeed, it is arguably one which ought to be made routinely available to couples with significant risk of serious inheritable disease.

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<sup>92</sup> Alexander M. Capron, *Unsplicing the Gordian Knot: Legal and Ethical Issues in the “New Genetics,”* in GENETICS AND THE LAW III 26 (Aubrey Milunsky and George Annas, eds. 1985). Cited in Edward J. Larson, *Human Gene Therapy and the Law: An Introduction to the Literature*, 39 EMORY L. J. 855, at 858 (1990).

## 2. *Gender Selection*

Pre-implantation diagnosis purely for gender selection has been used in the United States, not without some controversy, undoubtedly in part because it involves destruction of an otherwise presumably normal embryo. In England the Human Fertilization and Embryology Authority (HFEA) has banned gender selection.<sup>93</sup> A more acceptable, but not totally reliable, method involves separating “male” and “female” sperm for insemination or IVF. In such an instance, destruction of a normal embryo is not involved.

## 3. *“Enhancement” of the Genome*

A natural sequé from gender selection is the selection of embryos with certain genes believed to represent favorable or superior genetic traits. This has not been widely practiced in the United States, but is likely to come into use with expansion of the knowledge base of genetics, particularly if no regulatory body is established. The use of “germ line” therapy techniques, i.e. insertion of genes thought to be associated with “high quality” traits has not been attempted, but assuredly this possibility could become reality as knowledge and technology advance.

The selection of sperm for insemination or IVF, based upon traits in the sperm donor has been common practice for a number of years. More recently, eggs have been similarly commodified.<sup>94</sup> Because the retrieval of eggs involves considerably more effort than that of sperm (stimulation of ovulation is usually employed, and an invasive procedure is required), eggs command a much higher price than sperm, and there are ethical concerns about the propriety of permitting a “free market” in the pricing of eggs. There are perhaps equally troubling features of regulation of the price as well, particularly if it is done among providers, as opposed to being done by government regulation. As higher prices are paid, expectations rise as well, as does the level of disappointment if expectations are not met.<sup>95</sup>

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<sup>93</sup> Brendan I. Koerner, *Embryo Police*, WIREd, Feb. 2002, 52.

<sup>94</sup> See, e.g., Mary Lyndon Shanley, *Collaboration and Commodification in Assisted Procreation: Reflections on an Open Market and Anonymous Donation in Human Sperm and Eggs*, 36 LAW & SOC'Y REV. 257 (2002).

<sup>95</sup> See generally, Kari Karsjens, *Boutique Egg Donations: A New Form of Racism and Patriarchy*, 5 DEPAUL J. HEALTH CARE L. 57 (2002).

#### 4. Cloning

Generally, cloning (in the biological context) is the making of an exact copy or copies of an embryo, organism, or other aggregation of cells, including tissue or an organ. In contemporary parlance, it has come to refer to a technique of making a copy of an adult organism by creating an embryo, or embryo-like cell (i.e. a cell capable of developing and differentiating into an organism) with the same genetic make-up, or genome, by obtaining a differentiated cell from that organism, and transferring its nuclear material into an egg from which the nuclear DNA has been removed. The “embryo” or embryo-like cell is then transferred for gestation and birth of the “clone.” This technique was first successful in the highly-publicized case of Dolly the sheep. Since then, other non-human organisms have been cloned with the use of this technique. More recently, claims have been made that this technique has been used to produce pregnancy in humans, and there has even been a report, greeted with considerable skepticism, that there has been a live, normal birth.<sup>96</sup>

The technique described above is referred to as somatic cell nuclear transfer (SCNT), and is useful to create a cell with embryonic potential to develop into a copy of an existing adult organism. This method has not been verified to have occurred successfully in human beings. Indeed, there is very recent evidence that there is a fundamental difference between the ova of lower mammals, and those of primates, i.e., certain proteins critical to cell division are removed with the primate egg DNA, making human reproductive cloning impossible using the present techniques available.<sup>97</sup> Nonetheless, it is surely only a matter of time until other ways to clone an adult human being are developed. The present technique of SCNT does not produce an exact clone in that the cytoplasmic or mitochondrial DNA is not transferred, and the final “embryo” contains the nuclear DNA of the organism being cloned, and the mitochondrial DNA of the recipient egg. That is, if one were to adhere to the biological paradigm determining parentage, a conclusion that the “parents” of the re-

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<sup>96</sup> Raja Mishra, *Raëlians Renege on Promise to Allow Tests of ‘Clone’ Baby*, Boston Globe, Jan 4, 2003, at A4.

<sup>97</sup> Gretchen Vogel, *Nuclear Transfer: Misguided Chromosomes Foil Primate Cloning*, 300 SCIENCE 225 (2003); Calvin Simerly, et al, *Molecular Correlates of Primate Nuclear Transfer Failures*, 300 SCIENCE 297 (2003).

sulting child would be the person being cloned, and the person from whom the enucleated egg was obtained might be advanced. There might be a case where the enucleated egg and the nuclear DNA were obtained from the same woman, producing an exact clone, from the standpoint of DNA. Of course, all of this is in the future, but I mention it to reinforce the need to replace the traditional “biological” paradigm with the “significant acts” analysis.

Other methods of cloning are possible. Of course, natural twinning is an example of accidental cloning. Embryo-splitting can be employed to produce an indefinite number of clones. The important thing to remember about embryo-splitting, whether occurring in nature, or occurring as a result of some deliberate act, is that there is no adult organism or “final product” upon which to base a decision whether or not to clone. A clinic could, however, produce a few embryos by embryo-splitting, transfer, say, one or two for gestation, and store the others for years in cryopreservation. When the child produced from the original transfer is an adult, the cryopreserved embryos could then be transferred, to produce an infant twin of an existing adult. This is not something of immediate concern from a legal standpoint, primarily because of ethical constraints, and possibly medical constraints (transfer of embryos in storage more than five years is not generally accepted practice). On the other hand, it is possible that it will become a common practice in the coming years, and it should be a consideration as the law of ART develops.

### *C. Liability Issues*

Both criminal and civil liability have attached to the provision of assisted reproduction services by health care providers. The husband of a woman who undergoes insemination with donor sperm without his consent may have an action for fraud against the physician. Although he is not a patient of the doctor, he is an “inextricable” part of the non-spousal insemination process, partly because his consent is required by statute, and partly because of the degree to which procreation decisions have an impact upon both parties to the marriage, and because the husband

is unavoidably affected by his wife's non-spousal artificial insemination.<sup>98</sup>

Despite a surrogacy contract, and subsequent performance, which provided for surrender of all rights to the child after birth, a surrogate does have standing to maintain a cause of action for negligence against a surrogacy agency, for failure to exercise reasonable care in designing and supervising its surrogacy program.<sup>99</sup> An attorney brokering a surrogacy agreement may be considered to be, in effect, operating a fertility clinic, and thus held to different standards than he might expect as an attorney.<sup>100</sup>

Statutory law defining whether a sperm bank is a "health care facility" may affect its liability for children born with genetic defects or other conditions.<sup>101</sup> Treatment for infertility may be covered under workers compensation if infertility resulted from the claimant's employment.<sup>102</sup>

Of concern is the proposition that infertility treatment may be counterproductive from an evolutionary standpoint.<sup>103</sup> This is information that attorneys contemplating actions for negligence should consider in assessing causation in cases of congenital abnormalities in children born through ART.

#### D. Same-sex Couples

Couples of the same gender are not permitted to marry, and are generally not accorded any of the incidents of marriage when parental rights are at issue. Occasionally equitable arguments, such as in loco parentis, equitable estoppel, and de facto parentage are successful when an individual not biologically related to

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<sup>98</sup> Kerns v. Schmidt, 641 N.E.2d 280 (Ohio App. Ct. 1994). In this case, the husband did not state claims for medical negligence or wrongful pregnancy, possibly because the statute of limitations had run.

<sup>99</sup> Huddleston v. Infertility Clinics of America, Inc., 700 A.2d 453 (Pa. Super. Ct. 1997).

<sup>100</sup> Stiver v. Parker, 975 F.2d 261 (6th Cir. 1992).

<sup>101</sup> Johnson v. Superior Court, 101 Cal. App. 4th 869 (Cal. Dist. Ct. App. 2002).

<sup>102</sup> Tobias v. W.C.A.B. (Nature's Way Nursery, Inc.), 595 A.2d 781 (Pa. Commw. Ct. 1991).

<sup>103</sup> Norbert Gleicher, *Modern Obstetrical and Infertility Care May Increase the Prevalence of Disease: an Evolutionary Concept*. 79 FERTILITY & STERILITY, 249 (2003).

the child seeks to avoid parental status (read “child support”),<sup>104</sup> or wishes to maintain a relationship with the child through court-ordered visitation or custody. A marriage between a transgendered man (born female) has been held to be valid in Florida, by holding that the father was legally a male at the time of the marriage, but the decision seemed to rely, at least in part, on a theory of equitable estoppel.<sup>105</sup> Persons of the same gender living together, and not infertile by any medical definition of infertility, usually in a homosexual relationship, may wish to have children biologically related in some way to one or both of them.<sup>106</sup> In such cases, and indeed in all cases where a lesbian couple wish to have a child who is biologically related to one or both, a sperm donor is necessarily involved, who may, or may not, be vague about his intentions as to a relationship with the child at the time of the sperm donation, and who may subsequently assert parental rights. Or, the donor may be the subject of a paternity suit if the lesbian couple split up and the child’s legal mother has no other means of supporting the child. In those states with little or no statutory or case law in the area of ART, adherence to the requirements of the UPA, where state law is not in conflict, in drafting agreements and consent forms, is advised.

Generally, but not universally, courts have been reluctant to grant standing to seek visitation on the part of the partner having no biological relationship to the child when a lesbian couple separate.<sup>107</sup> It is valuable to study dissenting opinions in such

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<sup>104</sup> *Karin T. v. Michael T.*, 484 N.Y.S.2d 780 (Fam. Ct. 1985). The court relied on a theory of equitable estoppel. *But see* *State of Washington on Behalf of D.R.M.*, 2001 Wash. App. LEXIS 2550, where there was no support obligation on the part of nonadoptive and nonbiological partner.

<sup>105</sup> *Kantaras v. Kantaras*, No. 98-5375CA, Pasco Cty, FL, Feb. 2003, at 9. See *Judge Gives Transsexual Father Custody of Children in Florida*, N.Y. TIMES, Feb. 22, 2003, p. A15.

<sup>106</sup> For practical purposes, only a female same-sex couple could have a child biologically related to each, either by employing intracytoplasmic transfer of eggs, or by transfer of an embryo of one to the uterus of the other.

<sup>107</sup> *West v. Superior Court*, 69 Cal. Rptr. 2d 160 (Cal. Ct. App. 1997).



cases.<sup>108</sup> The non-biologically-related partner may find more success on equitable grounds.<sup>109</sup>

Second-parent adoption by a same-sex partner, where permitted, provides a same-sex partner legal protection for both her and the child, without the need for undergoing ART procedures solely to acquire one or more arrows in his or her quiver in the event of a potential legal battle in the future.

## V. Conclusion

The rapidly developing and changing landscape of assisted reproduction technology (ART) has presented and will continue to present new legal issues that challenge traditional notions of parentage, and of the legal rights incident to it. In order that the law governing ART develop in an orderly and rational way, certain concepts have been advanced. An examination of what acts, either voluntary, or by operation of law, are legally necessary and sufficient to establish parentage, with relegation of genetic ties to the realm of evidence is urged. The purpose and proper use of ART is to build families, and the purpose of ART law is to validate and strengthen those families, without undermining or perverting a body of law that developed in a universe of traditional reproductive practices. The law needs to, and should, develop and evolve to stabilize and protect the rights of persons utilizing ART, and of the children born as a result, as well as the relationships among them.

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<sup>108</sup> *Alison D. v. Virginia M.*, 572 N.E.2d 27 (N.Y. 1991). The dissent in this case notes, “The Court’s decision, fixing biology as the key to visitation rights, has impact far beyond this particular controversy, one that may affect a wide spectrum of relationships— including those of long-time heterosexual stepparents, “common law” and non-heterosexual partners such as involved here, and even participants in scientific reproduction procedures.” *Id.*, at 30.

<sup>109</sup> *In re Custody of H.S.H.K.*, 533 N.W.2d 419 (Wis. 1995).

