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The Socio-Legal Acceptance of New Technologies: A Close Look at Artificial Insemination

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THE SOCIO-LEGAL ACCEPTANCE OF NEW TECHNOLOGIES: A CLOSE LOOK AT ARTIFICIAL INSEMINATION

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Abstract: Heated debates often surround the introduction of an important new technology into society, as exemplified by current controversies surrounding human cloning and privacy protection on the Internet. Underlying these controversies are disruptions to central socio-legal values caused by these new technologies. Whether new technologies will eventually be accepted by society is often contingent on the reaction of the legal system. This mandates the formulation of a conceptual framework for understanding and structuring the way the law should react in cases surrounding the adoption of new technologies. By using the case study of artificial insemination this Article develops the tools for structuring the legal role in the acceptance process of new technologies. The three-century controversy surrounding the innovation of artificial insemination results from the innovations' disruption of the socio-legal value of the family. Artificial Insemination—although invented in the eighteenth-century—was rarely used until the 1930s, and only legalized in the 1960s. Its application to surrogacy and its use by unmarried women extends the controversy into the twenty-first century. The case study demonstrates the nature of the relationship among the technological, social and legal acceptance processes of new technologies, and analyzes the legal acceptance debate. The conceptual framework produced is useful in understanding and structuring the legal role in current debates surrounding the introduction and acceptance of new technologies.

INTRODUCTION

Much legal study has been devoted to the innovation of new technologies, in particular to the structuring of the appropriate legal regime for encouraging novelty. The next stage—the diffusion of innovations—the process by which an innovation gains widespread adoption—was studied by legal scholars mainly from the economic perspective. Legal writings dealing with other aspects of the diffusion process are scarce. The discussion of diffusion has failed to sufficiently account for the much broader struggle which often takes place whenever a controversial innovation enters society.

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These struggles are evidenced in recent debates, such as the controversy surrounding human cloning. Human cloning brings with it great scientific promise. It offers the possibility of replicating a child for an infertile couple or for a couple who has lost a child. It also presents the option of rebuilding new organs to replace diseased ones and providing perfectly matched cell implants to arrest such degenerative diseases as arthritis and Alzheimer's. Yet concerns regarding the birth of defective babies, the production of human clones to harvest organs, and fear of a eugenic attempt to develop the perfect race impede the application of cloning technology to human subjects. Currently, twenty-three countries, including the United States, ban some aspect of human cloning.[1]

This Article sheds light on current debates by formulating the foundation of a new conceptual approach for understanding the process through which an innovation is accepted by law and society. The Article focuses on a significant obstacle often facing the diffusion process of new technologies where the values embedded in the technology are incompatible with the corresponding socio-legal values, norms, and institutes.

The approach adopted in this Article is of a broad interactionist nature. Its underlying proposition is that the legal acceptance process should not be studied and cannot be comprehended in isolation. The Article examines the reciprocal interaction between the structural components of technology and the relevant social norms and legal concepts. It seeks to demonstrate the significance of studying the full range of these interactions for understanding the acceptance process of technology in society. This interactionist approach sets the stage for the Article's second objective, the conceptualization of the processes of acceptance of a new technology in law as they relate to processes of acceptance in the technological and social spheres. Particularly, the Article seeks to identify the qualities which characterize this legal debate and affect both its agenda and its outcome.

The Article utilizes the long struggle of the invention of artificial insemination in humans (AI) to gain socio-legal acceptance as a basis for the inquiry. In particular, it will focus upon the incompatibility of the technology of AI and the prevailing concept of the socio-legal institute of

1. *See Human-Cloning Try Nears as Company Spurns Rules*, USA TODAY, Apr. 5, 2001, at 10A; Editorial, *On Cloning, United States Should Keep FDA Ban*, NEWSDAY, Apr. 1, 2001, at B3; Editorial, *Reasons Not to Clone*, WASH. POST, Apr. 1, 2001, at B6.

the family. AI makes it possible, in cases of infertility, to impregnate women through the simple procedure of the injection of sperm. The injected sperm is either the husband's or a donor's depending on the cause of infertility. While the first documented reports of AI in humans are from the end of the eighteenth-century, the innovation was forgotten and rarely used until the 1930s. Furthermore, despite a long process of legalization and legitimization, the technology is to this day in the center of a social and legal controversy.

Like more recent debates, the story of the technology of AI is for better or for worse, a tale of repeated human choice. The history of AI illustrates that technology is not self-determining, it is not a means which overcomes the end, thus, impeding human freedom.[2] To the contrary, choice is repeatedly manifest through the interplay between social norms and legal defensive mechanisms, which act to inhibit the acceptance of new technology, and legal rules accommodating the new technology which are driven by its proponents and beneficiaries.

At the same time, the tale of AI contains its dark side. It is also the story of an abandoned innovation, of a rejected dissertation, of imposed silence, of dark secrets and shame and to this day—of discrimination against those considered "unfit" to use the technology. Most of all, it is a tale of lost opportunities for the many infertile people who were sterilized by society. This aspect of the history of AI underscores the pertinence of identifying and bringing to the forefront the mechanisms underlying the socio-legal struggle for acceptance, particularly in those cases where the technology causes perturbation of existing socio-legal values, norms or institutes.

This Article follows a hybrid analytic-historical framework. Part I seeks to assess the nature of the socio-legal acceptance process. It also outlines the conceptual framework that will be used to examine the legal acceptance debate. It defines the qualities which can influence the legal debate. Finally, it focuses on AI and describes the socio-legal institute which stands at the center of the AI controversy—the family—and the legal tools at its disposal.

The rest of the Article traces the history of AI's acceptance process while seeking to illustrate—through the examination of the interaction between the technological, social, and legal spheres—the mechanisms

2. For a discussion of a version of the deterministic view of technology, see generally Jacques Ellul, *The Technological Order*, *in* PHILOSOPHY AND TECHNOLOGY 86 (Carl Mitcham & Robert Mackey eds., 1972).

which influenced the legal acceptance debate. Part II covers the first period, "The Early Days of Artificial Insemination." This part describes the early history of AI encompassing a period running from the first AI tales, as early as the second century, to the mid 1930s. This was a period in which AI, although known, was barely in use due mainly to prevailing moral inhibitions which viewed the use of AI as an intrusion on traditional family relations.

Part III covers the second period, "From Moral Condemnation to Popular Practice." It encompasses an era commencing in the mid-1930s and ending at the beginning of the 1960s. During this time, use of AI evolved from limited public use to popular use. Use of AI kept expanding despite persistent moral condemnation and legal uncertainty acting to preserve the traditional organic family unit. This expansion was due to the efforts of the physicians who mitigated between these inhibiting forces and the desire of infertile couples to use the technology.

Part IV covers "An Era of Legalization," which focuses mainly on the 1960s–1970s but also addresses the continued process of legalization throughout the rest of the twentieth-century. It describes an era of increasing popularization caused mainly by the long awaited legalization of the basic AI practice, through the enactment of applicable statutes.

Part V, "Rocking the Boat," covers a period starting in the 1970s and continuing to this day. During this period, despite legalization, the technology of AI found itself again in the midst of controversy. Two new uses enflamed the social and legal debate by threatening to disintegrate the socio-legal notions of a family. These were the use of AI by single women and lesbians and the application of the technology to the practice of surrogacy. These controversies are still not resolved. The Article concludes by reflecting upon the implications of the case study's findings for the formulation of policy decisions regarding current technological controversies.

I. ACCEPTANCE: A CONCEPTUAL FRAMEWORK

A. The Acceptance Process

This section will first define the nature of the acceptance process as it is composed from the technological, social, and legal arenas. Second, it will provide an analytic framework for the legal acceptance process.

1. The General Nature of the Acceptance Process

Legal academic writing traditionally differentiates between three stages through which a new technology progresses. The first stage is *invention*, which is the technical discovery. The second stage is *innovation*, which is the first commercially successful application of a new technology. The third is *diffusion*, which is the widespread adoption of a commercially successful product.[3] Of chief importance is the distinction between innovation and diffusion.[4] Legal scholars have identified diffusion as a distinct stage in technological progress. Yet, despite the acknowledgment of the existence of a separate diffusion stage, legal writing on the issue of diffusion is restricted to an economic analysis of the diffusion process. Furthermore, legal studies concerning the diffusion stage tend to focus solely on the effects of laws directly aimed at regulating the technology.[5] This Article extends the scope of the study of the diffusion process. In particular, it encompasses circumstances where the value embedded in the technology is incompatible with the correspondent socio-legal value, norm or institute.

This Article highlights the broad nature of the diffusion stage and consequently its significant implications to societal technological progress. The diffusion stage is treated throughout this Article as the acceptance process of a specific technology by individuals, groups or other adopting units, that is particular to a specific social structure, value

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3. The most significant use of these categories in legal writing was done in the field of environmental law. *See generally* Nicholas A. Ashford et al., *Using Regulation to Change the Market for Innovation*, 9 HARV. ENVTL. L. REV. 419, 419 n.1 (1985); Natalie M. Derzko, *Using Intellectual Property Law and Regulatory Processes to Foster the Innovation and Diffusion of Environmental Technologies*, 20 HARV. ENVTL. L. REV. 3 (1996); Michael A. Gollin, *Using Intellectual Property to Improve Environmental Protection*, 4 HARV. J.L. & TECH. 193, 197–98 (1991); Kathleen M. Rest & Nicholas A. Ashford, *Regulation and Technological Options: The Case of Occupational Exposure to Formaldehyde*, 1 HARV. J.L. & TECH. 63, 65 (1988).

4. This dichotomy was also used by legal academics and, although again mainly applied in the field of environmental law, it was also relied upon in writings dealing with intellectual property. *See, e.g.*, Robert M. Friedman et al., *Comment, Environmental Policy Instrument Choice: The Challenge of Competing Goals*, 10 DUKE ENVTL. L. & POL'Y F. 327, 365–68 (2000); Dana R. Wagner, *The Keepers of the Gates: Intellectual Property, Antitrust and the Regulatory Implications of Systems Technology*, 51 HASTINGS L.J. 1073, 1109–10 (2000).

5. *See generally*, Ashford et al., *supra* note 3; Friedman et al., *supra* note 4; Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977). *See, e.g.*, Peter S. Menell, *The Challenges of Reforming Intellectual Property Protection for Computer Software*, 94 COLUM. L. REV. 2644, 2646 (1994).

system or culture and modes of communication.[6] Specifically, once an innovation enters society it is influenced by more than economic forces driven by competitive considerations and laws targeted at the technological makeup of the innovation. Societal values, norms, or institutes and their legal manifestations that were not originally formed to apply to the technology in question may force the technology to be altered or even completely rejected. The introduction of the technology, in turn, may apply pressure to change the relevant social norms and correlated laws. These interactions are of particular significance where a chasm appears between a value embedded in the technology and its socio-legal manifestation.

It is this reciprocal process—the process of socio-legal acceptance—that this Article sets out to study. The Article seeks to demonstrate the significance of studying the interaction between the technological, social and legal spheres for understanding the process through which an innovation is accepted in society. The structural component of the technology interacts with the relevant social values and legal concepts. This interaction determines society's acceptance of the use of the technology.

The notion of acceptance is conceived of as fluid, not necessarily permanent or complete. This is not to say that acceptance cannot at times reach complete stabilization, that is, a final form, which will cease evolving. For example, the structure of the bicycle, although undergoing different forms in the past such as the three-wheel format, has now reached a final form, which is no longer debated.[7] This form of stabilization is possible although not uniform in the technological sphere. Nevertheless, socio-legal (and at times, even technological) acceptance is often of a less structured and finalized nature.

In examining the nature of the acceptance of innovations, it is important to define at the forefront the nature of the subject matter which

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6. *See* Elihu Katz & Martin L. Levin, *Traditions of Research on the Diffusion of Innovation*, 28(2) AM. SOC. REV. 237, 240 (1963). The process oriented approach is distinguished from academic writings focusing on the specific focal influence of a certain technology on a socio-legal value. *See, e.g.*, Julie E. Cohen, *Examined Lives: Informational Privacy and the Subject as Object*, 52 STAN. L. REV. 1373, 1432 (2000).

7. This form of technological stability was coined by the Philosophy of Technology Social Constructivist Movement as *closure*. The term closure was used to explain the process through which a technological innovation reaches its final form. Closure occurs when a scientific controversy surrounding an innovation is terminated and scientific facts are created. From that moment on only one interpretation about the meaning of the innovation can be accepted by all. *See* WIEBE E. BIJKER, OF BICYCLES, BAKELITES AND BULBS 84–88 (1995).

is being accepted.[8] Technology may remain structurally the same while its social uses evolve. However, the distinction between the technical structure or procedure and its eventual use has proven to be over-simplified for the realities of the socio-legal acceptance process. An innovation has not two but three layers, each of which could potentially stand at the focus of the socio-legal acceptance analysis. These layers are: (1) *the technological structure or procedure*, (2) *the technology's social implication* and (3) *the technology's application*.[9] Of these three layers it is the technology's social implication which is the focal point of the acceptance process. The social implication of the technology represents a bias that is inherent in the technology itself. Should society choose to adopt rather than reject the technology, it will be impacted by its inherent social implication, regardless of the specific application used.

In the case of AI, the technology's applications evolved over the years and, as will be discussed, included: the impregnation of infertile women with a husband or a donor's sperm, the impregnation of single women with a donor's sperm, and the application of the technology to the practice of surrogacy. Yet, it is not any of these four applications whose acceptance is directly at issue. Instead, at stake is something much more inherent in the basis of the technology. The technological procedure of AI consists of the injection of sperm into a woman for the purpose of impregnating her, thereby enabling procreation without the traditional

8. Two other issues related to the scope of the inquiry should be addressed. The first concerns the subject matter of the acceptance process—whether a single innovation such as AI should be examined in isolation or whether it should be studied as part of the cluster of reproductive technologies. The choice to focus exclusively on the technology of AI should not bias the current exercise. It is noted, however, that the acceptance process of isolated innovations, as opposed to the acceptance of clusters of technologies, deserves independent consideration which is outside the scope of this exercise. The second issue relates to the geographic-cultural scope of the inquiry. Since the acceptance process depends on the effects of an innovation on a relevant set of socio-legal norms, the inquiry in this Article is limited mainly to the influences of AI within the United States. It may be that for certain technologies the acceptance process can be studied on a more global basis. However, since social values and their correlated legal manifestations tend to vary between cultures this study will not endeavor beyond the process as it takes place in the United States.

9. On the multi-layered notion of the innovation, see EVERETT M. ROGERS, DIFFUSION OF INNOVATIONS 423 (4th ed. 1995) (differentiating between: *form*—the directly observable physical appearance and substance of an innovation; *function*—the contribution made by an innovation to the way of life of members of a social system; and *meaning*—the subjective and frequently unconscious perception of an innovation which often alternates between social settings); MARSHALL MCLUHAN, UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN 7–21 (1964) (distinguishing between the *medium*—which is the message which shapes and controls the scale and form of human association and action and the *content*—which is merely another medium and which blinds us to the character of the medium).

resort to sexual intercourse between a married couple. The social implication at issue in the case of AI is, therefore, the ability to create children without sexual intercourse between a man and a woman, traditionally consummated within the nuclear family. This ability placed the family value embedded in the technology at odds with the prevailing socio-legal conception of the family. The family value embedded in AI enabled family structures that were incompatible with the nuclear genetically related socio-legal conception of the family. It is this conflict between the alternative values of the family which runs through the history of AI and which society struggles to resolve. The different applications, such as the application of AI to surrogacy, are merely its extensions. Hence, it is the socio-legal acceptance of the inherent social implications of different technologies which are at the core of the acceptance process.

2. *Analyzing the Legal Acceptance Process: Technological Visibility and Technological Frames of Meaning*

This Article seeks not only to expose the comprehensive nature of the general acceptance process, but also addresses the nature of the legal acceptance process.[10] Two qualities particularly distinguish the legal acceptance debate: (1) the extent of *technological visibility*, and (2) the role played by *technological frames of meaning*.

Technological visibility refers to the extent to which the functional or procedural elements of the technology are at the center of the legal debate. For example, in the judicial arena, whether the technology is at the focus of the debate is determined by the portion of the judgment dedicated to the description of the details of its structure or procedure. Where the court dedicates a substantial part of the judgment to the description of these elements, the technology can be considered to be visible. When the facts involving the technology are at forefront of the

10. The conception of acceptance in law throughout this Article is heavily influenced by the Social Constructivist concept of *procedural closure*. According to the Social Constructivists, procedural closure takes place if a controversy is terminated through formal procedurally governed efforts. A correct resolution is not required and considerable disagreement among the disputing parties may be sustained indefinitely. This form of closure works only temporarily because it does not reach the deeper layer of the controversy. *See* Tom L. Beauchamp, *Ethical Theory and the Problem of Closure*, *in* SCIENTIFIC CONTROVERSIES 27, 30–31 (H. Tristram Englehardt, Jr. & Arthur L. Caplan eds., 1987); H. Tristram Englehardt, Jr. & Arthur L. Caplan, *Patterns of Controversy and Closure: The Interplay of Knowledge, Values and Political Forces*, *in* SCIENTIFIC CONTROVERSIES, *supra*, at 1, 5.

court's judgment, people remain consciously aware of the fact that a new technology is the source of any social consequences that took place. Furthermore, the outcome of the case will usually be strongly related to the nature of these technological facts. In contrast, where the court merely mentions that the technology was used and focuses the judgment not on the technological details but on the social ramifications of such use, the technology can be considered to be invisible.[11] In these cases, lack of attention to the technology removes it from people's consciousness and the outcome is usually not related to the technological features but to the social ramifications of a particular application.

Technological visibility tends to run on a spectrum, and thus is not necessarily completely visible or completely invisible. Where the technology is highly visible, the legal debate is likely to focus on features which are central to the technology. For example, in the case of a reproductive technology, courts will focus on the artificial nature of the procedure as opposed to the natural act of sexual intercourse or upon technicalities such as whose sperm is used, whose ova is utilized, and where the union and growth takes place. Further along the spectrum, where technology is less visible, the legal debate will focus upon qualities which are ancillary to the technology. For example, in the case of reproductive technologies, the legal determinations will concentrate upon features such as the intentions of the parties seeking conception through artificial reproduction and the lengthy time period during which the treatments often take place.

Another type of legal debate, which represents a form of technological visibility, takes place when an argument defined here as the *continuity argument* is invoked. This form of technological visibility occurs where a new use has evolved for a technology which has already gained certain socio-legal acceptance. In such cases, technological visibility will be manifested in the legal debate through the argument that the new application stems from the use of the very same technology which already gained acceptance. Where such argument is accepted by the court, attention will be given to the technological features of the innovation and not merely to the social ramifications of the new use.

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11. A description of a certain form of technological invisibility appears in Alan Borgmann's distinction between a *thing* and a *device*. Borgmann explains that a thing is indistinct from its context. A stove for example, was also a *focus*—a place around which the family congregated for work or leisure. On the other hand, a device, such as the central heating provides warmth and disburdens us of all the other elements. The machinery of the device becomes concealed. *See* ALBERT BORGMANN, TECHNOLOGY AND THE CHARACTER OF CONTEMPORARY LIFE 41 (1984).

At the other extreme of the spectrum lie cases of technological invisibility. Where the technology is invisible it will be mentioned as part of the factual pattern, but its technological features will not be at issue. In the case of reproductive technologies, courts could mention that the child was conceived through the relevant reproductive technology, but the factual pattern laid out will not contain any features of the technology.

It is important to pause here and explain the significance of the technological visibility feature to the study of the legal acceptance debate. It should be noted that this Article does not undertake to determine the relationship between the visibility of the technology and the outcome of the legal acceptance debate, that is, whether technological visibility or invisibility is more likely to enhance the acceptance of the technology.[12] In highlighting the technological visibility factor in the legal acceptance debate, the objective is to expose the relationship between potential legal arguments and the degree of technological visibility. The study of the legal discourse (in particular the type of arguments taken into account) and the identification of the desirable form of such discourse are often as important as the study of the relevant legal outcomes. In considering the alternative forms of the legal acceptance debate, neither technological visibility nor technological invisibility stands out as a preferable form of the debate.

Technological visibility may enable the acceleration of the acceptance of a new use of the technology through the employment of the continuity argument. At the same time, it may conceal and therefore prevent an open debate on the social consequences of the technology. On the other hand, technological invisibility, while not obstructing the view of the social ramifications, does not necessarily guarantee an open debate of the real issues at stake. Furthermore, technological invisibility may induce differential treatment for different applications of the same technology where visibility would have highlighted potential injustice or irrationality of such contradictory determinations. Thus, it would be undesirable to settle on either technological visibility or technological invisibility as the single best form of debate. Neither is desirable as the sole form for controlling the debate. As described, technological visibility consists of a spectrum. This Article will study the potential shades of visibility and

12. This is not to say that the relationship between the outcome of the debate and the extent of technological visibility is not of significance to the study of the legal acceptance process. Nevertheless, drawing such conclusions on the basis of the one case study featured in this Article would be premature.

their consequences. Only then can choices be made with regard to the degree of technological visibility suitable for the legal acceptance debate.

The second quality, which plays a major part in the legal acceptance debate, is the role of the "technological frames of meaning." A technological frame of meaning guides one's thinking and interaction with any given technology. At the same time, it constrains the freedom of those who hold it because it constrains their perception and, therefore, their use of the technology.[13] The process of socio-legal acceptance is usually characterized by several frames of meaning held by different participants in the debate, and the one that prevails often influences the outcome of the debate. For example, in the case of reproduction technologies two different frames of meaning tend to control the debate—the frame of meaning of cure and the frame of meaning of choice. Those advocating the technology would utilize the frame of meaning of cure and argue that the technology constitutes a medical cure for infertility.

Those objecting to the technology would argue that the technology is not a necessary remedy for a medical condition but is merely a matter of a life choice preference.[14] Whether the technology is viewed as a medical cure for infertility or as a matter of choice has a significant effect on the debate.[15] The influential power of the frames of meaning is enhanced by the fact that some groups have a considerable ability to mobilize acceptance for the new technology and the domination of their technological frame of meaning has a significant effect on the outcome of the debate. Consequently, identifying the frames of meaning and their role in the debate can provide an important explanatory power in the study of the acceptance process.

B. The Family: An Institute Under Pressure

In practice, the socio-legal acceptance process occurs in the adjustment of the relevant socio-legal values or institutions to the new

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13. *See* BIJKER, *supra* note 7, at 191–92.

14. Although the frame of meaning of choice has traditionally played a positive role in women's struggle for autonomy it was used differently in this technological arena. It was on this battleground that women tried to escape the connotations of choice in favor of the protective realm of a cure for disease.

15. On "the disease as a socially created reality," see IVAN ILLICH, MEDICAL NEMESIS: THE EXPROPRIATION OF HEALTH 117–18 (1975).

technology.[16] The main socio-legal institute influenced through the innovation of AI is the institution of the family.[17] Historically—and to this day—the family is considered by many to be the natural form for the social organization of intimacy.[18] The unit is organized around the nuclear family which is based on the sexual affiliation between a man and a woman. New alternatives to the nuclear family are often cast as threatening and dangerous.[19]

Use of AI technology created alternatives to the traditional organic family unit of a father, a mother and a child who are genetically related. Although adoption was a recognized alternative, the new technology significantly enhanced the range of available alternatives. These included a father who is not the natural father, a single parent family of one mother, a two lesbian mother family, and a two gay father family. The new alternatives were viewed as artificially constructed and unnatural in contrast to the nuclear, genetically related family.[20] The reluctance to accept these alternative technologically constructed forms stemmed from inhibitions related to the reliance on the traditional organic unit as one of the foundations of societal order. Progress or setbacks in the socio-legal acceptance of AI are thus reflected in the flexibility of the socio-legal institution of the family and its readiness to encompass within its emblem the technologically constructed alternatives.

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16. *See* DAVID ELLIOTT & RUTH ELLIOTT, THE CONTROL OF TECHNOLOGY vii (1976) (arguing that the choice to use one technology over another or to apply a technology for a certain end relates to the underlying societal scheme of values and priorities).

17. The debate around AI raised additional issues in the socio-legal arena. These included the concern with regard to eugenics and safety issues related to the selection of the donor, such as the dangers of HIV and genetic defects, and the consequent liability of the physician. The focus for the sake of this exercise is narrower. It is an attempt to analyze, throughout the relevant historical period, the net of interactions relating to one socio-legal concept—the family. Furthermore, the inquiry is also limited to the legal and social consequences which eventually took place. It does not expand to include issues such as the possibility of incest, which was implicated primarily in the legal scholarly debate but never became an actual part of the controversy.

18. *See* MARTHA ALBERTSON FINEMAN, THE NEUTERED MOTHER, THE SEXUAL FAMILY AND OTHER TWENTIETH CENTURY TRAGEDIES 145 (1995).

19. *See id.* at 146.

20. This is not to say that the traditional nuclear family is natural. Like its newly technologically created alternatives, its existence was enforced by law and society. However, due to the illusion of neutrality cultivated over the years, it was viewed by many as natural in contrast to the technologically derived forms that were considered socially constructed. On the socially constructed nature of the nuclear genetic family, see generally JACQUES DONZELOT, THE POLICING OF FAMILIES (Robert Hurley trans., Random House 1979) (1977); SUSAN MOLLER OKIN, JUSTICE, GENDER AND THE FAMILY (1989).

The nuclear genetic family is a socio-legal construct, which at the same time enhances the socio-legal mechanisms which created it and continue to supplement it. One traditional means of maintaining the nuclear family unit was through the use of social taboos aimed at preventing women from conducting sexual relations outside the family.[21] The law enhanced these social taboos. This was done, as is often the habit of the law, without resort to coercion, but through indirect enforcement of the relevant social institute by offering incentives and disincentives.[22]

AI enabled, for the first time, the removal of sex from reproduction by enabling artificial procreation without resort to sexual intercourse. This created a threat to the confinement of reproduction to the nuclear family. The identification of the mechanisms crafted to combat such threats is, therefore, of significance to the study of AI's acceptance process.

Several socio-legal taboos were traditionally used to "lure" society toward the traditional genetic nuclear family institution and away from alternative forms. The mechanisms most relevant to the acceptance of the technology of AI are those based on the tie between sex and procreation. Society traditionally controlled reproduction indirectly through defining who is to have sexual intercourse with whom and under which circumstances. A related assumption concerned the relationship between marriage and sexual intercourse. For centuries it was socially accepted that sexual intercourse should take place within the family.[23] Two legal tools were utilized to secure the tie between sex and procreation. The first is the concept of illegitimacy. The illegitimate child born to his mother out of wedlock was considered born in disgrace. Under the common law the illegitimate child was disqualified from certain offices, was entitled to no support from its father, and was restricted in its rights of inheritance.[24] Through the disadvantages attached to illegitimacy the

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21. *See* EVA FIGES, PATRIARCHAL ATTITUDES: WOMEN IN SOCIETY 38–39 (1970).

22. This legal mode of control was termed by Carl E. Schneider as the *channeling function.* Through its channeling function the law, usually without resorting to coercion, creates and supports social institutions which are thought to serve desirable goals. Schneider further explains that the channeling of people into institutions can be done by: (1) recognizing and endorsing institutions, thus, giving them some aura of legitimacy and permanence; (2) rewarding participation in an institution; (3) disfavoring competing institutions; and (4) directly penalizing the non-use of the institution. *See* Carl E. Schneider, *The Channeling Function in Family Law*, 20 HOFSTRA L. REV. 495, 498–99, 503–04 (1992).

23. *See* R. SNOWDEN ET AL., ARTIFICIAL REPRODUCTION: A SOCIAL INVESTIGATION 3–8 (1983).

24. *See* Robert A. Brazener, Annotation, *Statute of Limitation in Illegitimacy or Bastardy Proceedings*, 59 A.L.R. 3D 685 § 2(a) (2001); 41 AM. JUR. 2D *Illegitimate Children* §§ 1, 7 (2000).

law produced a disincentive for women's sexual activity outside the confines of marriage and the traditional family. Similarly, the second tool—the concept of adultery—had among its aims the regulation of sexual activity into the nuclear family form. The concept of adultery, which was traditionally a crime, was viewed as offensive to the marriage, the community and the state. It was punished because it threatened the stability and security of communal norms.[25] Thus, like illegitimacy, adultery provided a disincentive to sexual activity outside the family and served to strengthen the institute of the nuclear genetic family.

Having defined the factors which play significant roles in the socio-legal acceptance process, and having identified the relevant socio-legal institute, its defense mechanisms, and its incompatibility with the concept of the family as embedded in the technology, the next sections will examine the way in which these factors played out in AI's long struggle for socio-legal acceptance.

II. THE EARLY DAYS OF ARTIFICIAL INSEMINATION

The technology of AI did not originate with a lone inventor desperately tearing his hair out in a disorderly laboratory. Nor was it invented by a corporation which—through a large investment of time and money—produced and aggressively marketed the technology in order to attain widespread use. The technology of AI seems to have appeared over the years in different parts of the world while failing to achieve at any point of time the aura of a technological innovation.

Contrary to common belief, the first reports of AI appeared long before the twentieth-century, thereby indicating the potency of the struggle between technological innovation, social norms, and legal inhibitions. Hints at the possibility of pregnancy, unrelated to either the deed of God or the act of sexual intercourse, appeared as early as the second century in the writings of the *Talmud*, where the pregnancy of a virgin through accidental insemination in bathwater was discussed.[26] Later on in the thirteenth century, Rabbi Peretz Ben Elijah of Corbeil bade women to beware of lying on linen on which any man other than their husband had lain, lest they become pregnant and risk conceiving a

25. *See* LAURA HANFT KOROBKIN, CRIMINAL CONVERSATIONS: SENTIMENTALITY AND NINETEENTH CENTURY LEGAL STORIES OF ADULTERY 22–23 (1998).

26. Samson Kardimon, *Artificial Insemination in the Talmud*, 2 HAROFE HAIVRI 162, 163–66 (1942).

child of unknown origin.[27] These references did not discuss conception through artificial means; they merely pointed to the possibility of accidental conception, unrelated to intercourse or to an act of God.

The earliest source that mentioned the accomplishment of conception through technological means (perhaps more precisely through an intentional human act) involved the insemination of animals. The first was an Arabian source from the fourteenth-century, describing the insemination of a mare in heat with the sperm of a renowned breeding stallion.[28] This event remained, however, within the confines of an unsubstantiated tale.

The first substantiated procedure was performed in 1777 by an Italian physiologist.[29] This account is not only the first documented procedure of AI but is also a record of the social inhibitions accompanying the diffusion process of the technology from its very early days. Lazzaro Spallanzani, who was a priest of Modena and professor at the University of Pavia, successfully artificially inseminated frogs, toads, and finally a dog. At the time, Spallanzani's accomplishments created quite a stir in the scientific world.[30] Yet, Spallanzani never experimented with humans. Views varied as to the precise source of his reluctance to do so. Some argued that as a priest and professor at the University of Pavia he would have been dismissed on religious grounds. Others claimed that his own personal religious beliefs or the prevailing religious sentiments of the time prevented him from proceeding.[31]

Despite the inhibitory influence of prevalent societal values and norms on the application of the procedure to humans, the first reports of human AI followed closely. The exact date when this feat was accomplished is uncertain. Most accounts point to the performance of human AI by the English physician, Dr. John Hunter, some time between 1776-1799.[32] The report of Dr. Hunter's accomplishment demonstrates the influence of inhibiting social norms on the nature of the technological procedure. Dr. Hunter himself apparently did not perform the procedure. Instead, the

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27. *See* A.M.C.M. SCHELLEN, ARTIFICIAL INSEMINATION IN THE HUMAN 8–9 (1957).

28. *See* HERMANN ROHLEDER, TEST TUBE BABIES: A HISTORY OF THE ARTIFICIAL IMPREGNATION OF HUMAN BEINGS 35–37 (1934).

29. SCHELLEN, *supra* note 27, at 11.

30. *See* ROHLEDER, *supra* note 28, at 37–40; SCHELLEN, *supra* note 27, at 11–12.

31. *See* ROHLEDER, *supra* note 28, at 40; SCHELLEN, *supra* note 27, at 12.

32. *See* SCHELLEN, *supra* note 27, at 13; Charles E. Rice, *A.I.D.—An Heir of Controversy*, 34 NOTRE DAME L. REV. 510, 511 (1959).

husband was provided with a syringe, instructed to warm it and fill it with semen immediately after intercourse. He was then told to inject it into his wife's vagina immediately following intercourse while it was still in the proper state for receiving the semen. The procedure was successful and the woman became pregnant.[33]

Subsequently, all nineteenth-century accounts of AI in humans involved the insemination of married women by their husband's sperm. Although at times the physician reportedly executed the procedure,[34] at other instances the husband executed at least part of the procedure. One account reported that the physician guided with his finger a rubber tube into the cervical canal of the wife but let the husband inject the semen himself.[35] The effort made by some of the physicians to preserve intimacy by involving the husband in the procedure underscores the uneasiness with which the procedure was received by both physicians and patients. Moreover, the insistence on involving the husband in the artificial procedure points to the reluctance to sever the tie between sex and procreation that was strongly intertwined with the institute of the nuclear family. The connection between sex and procreation was apparently so deeply embedded in social morality that there was a need to purposefully insert an element of sex into the artificial procedure. Social norms related to the institute of the nuclear family, thus, influenced the procedural application of the technology.

Some diffusion of AI occurred throughout the nineteenth century, but only as an experimental procedure. Greater diffusion was inhibited by the social norm linking sex and procreation and by Victorian norms guarding the modesty of the female body. The Victorian era of the nineteenth-century is famously known for its sexual conservatism.[36] This conservatism was extended to the relationship between women and their physicians. In the Victorian era, middle and upper class women often declined to consult physicians for gynecological problems except in extreme cases. Accounts describe the difficulty of attaining women's

33. SCHELLEN, *supra* note 27, at 13.

34. This was the case with Girault who was known to have performed the first "scientific" experimentation in AI. Girault claimed to have achieved successful conception eight times. *Id.* at 14–15.

35. This was the case of Gigon Sr. a surgeon of Angouleme. *Id.* at 15.

36. *See* 2 FREDERICK MARRYAT, A DIARY IN AMERICA WITH REMARKS ON ITS INSTITUTIONS 244–47 (1839) *quoted in* Carl N. Degler, *What Ought to Be and What Was: Women's Sexuality in the Nineteenth-Century, in* WOMEN AND HEALTH IN AMERICA: HISTORICAL READINGS 192, 192 (Judith Walzer Leavitt, ed., 1999).

medical history due to their embarrassment.[37] And furthermore, even after the prejudice among physicians against obstetric and similar occupations was finally overcome in the mid-eighteenth-century, they literally had to operate in the dark. In order to avoid charges of impropriety, lights were dim during the examination, the woman was fully clothed and a sheet was thrown over her. The physician was obliged to operate by touch only, his hand groping under the sheet.[38]

Social norms acted to inhibit the diffusion of the technology not only among those seeking to use it but also among the most progressive members of the medical profession who sought to apply it. Vivid evidence of the constraints that prevailed at the time is illustrated by the personal story of Dr. Marion Sims. Dr. Sims was known as the "father of modern gynecology"[39] and performed the first successful human AI in the United States.[40] Dr. Sims discussed AI in his 1866 publication, *Clinical Notes on Uterine Surgery*. The fact that he dared to experiment at all in such forbidden territory and to publish his findings aroused some of his readers to shocked indignation. Some of his critics were especially appalled by his account of the way he, at times, visited sterile married couples in their bedroom where he applied different measures to overcome conception problems. *The Medical Times and Gazette of London* commented:

> We can but express an unfeigned regret that Dr. Marion Sims has thought proper to found an odious style of practice on such methods. If such practices were to be considered the business of the physician there are a good many of us who would quit Physic for some other calling that would let us keep our sense of decency and self respect. Better let ancient families become extinct than keep up the succession by such means.[41]

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37. *See* Regina Morantz, *The Lady and Her Physician*, *in* CLIO'S CONSCIOUSNESS RAISED: NEW PERSPECTIVES ON THE HISTORY OF WOMEN 38, 48 (Mary S. Hartman & Lois Banner eds., Octagon Books 1976) (1974).

38. *See* CARL N. DEGLER, AT ODDS: WOMEN AND THE FAMILY IN AMERICA FROM THE REVOLUTION TO THE PRESENT 56–59 (1980); SEALE HARRIS, WOMAN'S SURGEON: THE LIFE STORY OF J. MARION SIMS xviii (1950).

39. HARRIS, *supra* note 38, at xvii.

40. *See* SCHELLEN, *supra* note 27, at 14; Rice, *supra* note 32, at 511.

41. HARRIS, *supra* note 38, at 246–48.

Dr. Sims was said to have later abandoned the practice of AI because he found it to be immoral.[42]

Inhibiting social norms restricted the diffusion of the technology not only by limiting the practice of AI by medical practitioners but also by restricting its very discussion within these circles. A thesis on the topic, which was rejected by the Faculty of Medicine in Paris, tried to explain the scarcity of medical writing on the topic. Three reasons were given: (1) AI sometimes caused very serious complications which brought the practice to disrepute; (2) this method was highly repugnant to the couple; and (3) religious and moral obligations.[43]

Although inhibiting social norms and not their legal manifestation restricted the diffusion of the technology during the nineteenth-century, the prevailing social attitudes were reflected in 1883 in the first trial involving AI, which took place in Bordeaux. This very first legal discussion of AI reflected the prevailing social sentiments through a strong form of technological visibility. At trial, the physician who performed the procedure both lost the suit against one of his patients for refusing to pay a fee, and in a strongly worded indictment was ordered by the Tribunal of Bordeaux to pay costs and damages. The court's judgment was affected by the physician's generally unprofessional conduct.[44]

At the same time, the result was obviously related to the Tribunal of Bordeaux's sentiments toward the procedure. It stated, "AI constitutes an interference between man and wife by resorting to the use of artificial means contrary to the laws of nature and if abused, amounts to a true social danger."[45] The court's judgment was characterized by a strong form of technological visibility. This was manifested by the attention paid to a central feature of the technology—its artificial nature. The technological visibility evidenced in the legal debate reflected the arguments raised against the procedure in the social debate. In its disapproval of the interference in the sexual relations between man and

42. *See* SCHELLEN, *supra* note 27, at 16; Rice, *supra* note 32, at 511.

43. *See* WILLIAM KEVIN GLOVER, ARTIFICIAL INSEMINATION AMONG HUMAN BEINGS: MEDICAL, LEGAL AND MORAL ASPECTS 7–9 (1948).

44. The Tribunal of Bourdeaux was apparently enraged by the physician's procurement of patients through a newspaper ad; the exorbitant fee demanded; and the physician's temerity of accusing the wife of having an abortion after the procedure failed and apparently resulted in an internal disease. SCHELLEN, *supra* note 26, at 286–87.

45. *Id.* at 286.

wife, the Tribunal of Bordeaux re-affirmed the import of the tie between sex and procreation.

Apparently this case caused quite a stir. It resulted in the appointment of a committee by the Societe de Medicine Legale to inquire into the issue of AI.[46] The committee concluded in its report that the court's declaration that AI is a social danger and conflicts with the laws of nature was not defensible.[47] However, it also stated that AI should be applied only if the couple requests it—the physician should not suggest it of his own volition.[48] The medical faculty of the University of Paris, which in 1885 rejected a dissertation on the topic, evidently did not follow this pragmatic approach.[49] To add to the general socio-legal disapproval, toward the end of the nineteenth century the first formal religious proclamation on the subject of AI was made. A Catholic ruling in 1877 expressly condemned AI to be immoral and prohibited its consideration.[50]

Despite the inhospitable atmosphere, there was an increase in the diffusion of the technology during the last thirty years of the nineteenth-century. This was apparently related to a certain relaxation of the social norm tying sex and procreation, which was caused by the exercise of birth control. The end of the nineteenth-century saw accounts from other European countries reporting instances of AI.[51] At the same time, many sources report that as the nineteenth-century progressed, women expanded their autonomy within the family. This conclusion was based on the increase in the number of single women and divorcees, but particularly on the decline in fertility rates.[52] The number of children over the age of five per 1000 women went down from 1342 in 1810 to

46. *Id.* at 287.

47. *Id.* at 8–9.

48. *Id.*

49. ROHLEDER, *supra* note 28, at 156–57.

50. *See* Alfred Koerner, *Medicolegal Considerations in Artificial Insemination*, 8 LA. L. REV. 484, 489 (1948).

51. *See* SCHELLEN, *supra* note 27, at 17–18.

52. *See* DEGLER, *supra* note 38, at 144–77; Daniel Scott Smith, *Family Limitation; Sexual Control and Domestic Feminism in Victorian America*, *in* CLIO'S CONSCIOUSNESS RAISED: NEW PERSPECTIVES ON THE HISTORY OF WOMEN, *supra* note 37, at 119; Carroll Smith-Rosenberg & Charles E. Rosenberg, *The Female Animal: Medical and Biological Views of Woman and Her Role in Nineteenth-Century America*, *in* WOMEN AND HEALTH IN AMERICA: HISTORICAL READINGS, *supra* note 36, at 111, 115.

six hundred sixty-six by 1900.[53] Women began to see the restriction of family size as a necessity to the preservation of health, status, economic security and individual autonomy.[54] Furthermore, they began to see the pain and sometimes lingering incapacity associated with childbirth as a condition that could be avoided.[55] The manifestation of women's autonomy through birth control is of great significance to the study of the acceptance process of AI because it constitutes a parallel acceptance. At the same time that AI operated to separate procreation from reproduction by removing the necessity of sex from reproduction, birth control separated the two by removing reproduction from sex. Thus, it may very well be that this parallel development influenced the increase of reported AI cases toward the end of the nineteenth century.

At the same time, it is important to emphasize that the use of birth control was often criticized by physicians as unnatural and corrupting of character.[56] Furthermore, even advocates of birth control did not approve of contraception devices. They considered "artificial" measures to be unnatural, injurious and offensive. Those advocating birth control proposed methods of periodic or permanent abstinence, for example through the prediction of the wife's cycle or the avoidance of the male climax.[57] The nature of the contraception debate and its rejection of artificial devices was similar to the arguments raised against AI.

In addition, European publications of this time period reveal a significant inhibiting influence of societal norms on the technological procedure. None of the European publications referred to use of semen which was not the husband's. Thus, one can presume that these publications concerned inseminations with the husband's semen, known as AIH.[58] Although it is possible that some attempts were made with a donor's sperm, known as AID, it is unlikely that any physician using the method would have dared to make it public in the prevailing climate.[59] Resort to AID would have enabled procreation where the fault lay

53. WILSON H. GRABILL ET AL., THE FERTILITY OF AMERICAN WOMEN 14 (1958). Note that this data applies only to white children.

54. *See* Smith-Rosenberg & Rosenberg, *supra* note 52, at 115.

55. *See id.* at 118–19.

56. *See id.* at 119–20.

57. *See* Linda Gordon, *Voluntary Motherhood: The Beginnings of Feminist Birth Control Ideas in the United States*, *in* WOMEN AND HEALTH IN AMERICA: HISTORICAL READINGS, *supra* note 36, at 254–56.

58. *See* SCHELLEN, *supra* note 27, at 17–18.

59. *See* GLOVER, *supra* note 43, at 9.

principally with the male generally in the form of deficient sperm. However, during the nineteenth-century medical opinion emphasized that it was the wife's constitution and reproductive capacity and not the husband's which was pertinent.[60] This attitude became evident from later writings which mentioned that some men requested the procedure but were reluctant to prove that the infertility was their own.[61] One medical commentator summarized the state of the affairs which apparently persisted, although perhaps with lesser vigor, to the end of the 1930s:

> It is very unfair and extremely unscientific to subject the female to all manner of investigation and even operative procedure, while the male complacently stands by satisfied with the belief that he is not at fault. In our modern era the woman has, through a process of change and development, come into her own. First, social, then political equality have served to loosen the fetters which bound her to inferiority. Why not, then, grant her equality in the noblest field of all—that of sexual relationship sanctified by marriage and the glory of motherhood? Let us examine the man also.[62]

It is apparent that AIH was executed even when the sperm of the husband was unlikely to produce conception.[63] Use of AI for this broader range of conditions necessarily lowered the rate of success, thereby demonstrating the ability of moral norms to affect the technical functionality of the innovation.

The struggle of the technology of AI in the twentieth century was launched with a strange case involving AIH, which represents an initial effort to apply traditional family law doctrine to an incompatible technology. The case proceeded through the German court system during the first decade of the twentieth-century. The wife in that case claimed that she conceived by using a candle to insert the seminal fluid she found in the bed of her impotent husband. This was done without the consent of her husband. The husband renounced the child and the issue of the legitimacy of the child was raised. The courts rejected the husband's claim of illegitimacy. The Reichgericht at Leipzig (the German highest court of appeals) stressed the pertinent difference between normal

60. *See* Smith-Rosenberg & Rosenberg, *supra* note 52, at 121–22.

61. *See* Robert L. Dickinson, *Artificial Impregnation: Essays in Tubal Insemination*, 1 AM. J. OBSTETRICS & GYNECOLOGY 255, 259 (1920).

62. Joseph Cohen, *Sterility*, 83 NEW ORLEANS MED. SURGICAL J. 401, 401 (1930).

63. *See* Dickinson, *supra* note 61, at 260.

intercourse and this act. However, a final verdict was never proclaimed.[64] It was here that the legal tool of illegitimacy was raised for the first time in the context of AI as an argument for providing an incentive to keep sex, and consequently procreation, within the nuclear family. It must be noted that in this case the courts did not act to maintain the tie between sex and procreation but enabled the separation. This decision commenced the trend of uncertainty and conflicting judicial results which was to accompany the technology of AI for many years to come.

The first publication that mentioned AID appeared in the *Medical World* in 1909.[65] The circumstances and storm enveloping the first publicized AID procedure reflect the continued effect of inhibitory moral norms, in particular where use of the sperm of another man infringed upon the notion of a nuclear genetic family. The publication reported an 1848 case in Philadelphia involving a forty-one year old merchant and his wife who remained childless. The physician in charge of the procedure determined that there was no sperm in the husband's semen. It was then decided that the wife would be anaesthetized, semen would be collected from the best looking member of the medical school class and that semen would be introduced into her uterus. Neither the merchant nor his wife knew what was done. The physician confided in the merchant after the fact. The merchant was delighted but arranged for his wife to remain in ignorance. And, so the publication told, the wife became pregnant and gave birth to a son who resembled not the student but the merchant.[66] The publication evoked intense criticism from the readers of *Medical World*. Reactions included disbelief and shock at the immorality of the procedure, but also some arguments advocating the procedure's potential to end involuntary childlessness.[67]

The beginning of the twentieth-century saw an increase in the diffusion of the technology within professional medical circles. However, even within these circles moral norms restricted the scope of the diffusion. In the first decade of the twentieth-century the frequency of American medical publications concerning AI increased. A similar growth in European medical publications began only in the second and

64. *See* SCHELLEN, *supra* note 27, at 287–88.

65. *See* A.D. Hard, *Artificial Impregnation*, 27 MED. WORLD 163 (1909).

66. *Id.* at 163.

67. SCHELLEN, *supra* note 27, at 19–20; A.T. Gregoire & Robert C. Mayer, *The Impregnators*, 16(1) FERTILITY & STERILITY 130, 132–33 (1965).

third decade of the century.[68] Furthermore, some of the comprehensive publications about infertility published in the first decades of the century contained no reference to AI.[69] Other publications commended AI as a thoroughly reliable and scientific procedure, worthy of consideration.[70] However, some emphasized the difficulties of using the procedure in the prevailing social climate. One such publication explained that the use of the technology was not widespread because patients often revolted at the idea, and refused to continue after one trial, or even preferred surgical interventions.[71] Moreover, it should be noted that this surge in medical publications still concerned AIH and not AID.[72]

Although the general controversy surrounding AI was focused upon AIH and not the more controversial procedure of AID, a Canadian court was obliged in 1921 to take a stand with regard to AID's legal implications. The facts of *Orford v. Orford* give an insight into the prejudices and secrecy which enveloped the uncommon practice of AI in its early days. *Orford* demonstrates the influence of moral norms on the technological procedure itself, the extent of technological visibility prevalent in early legal cases dealing with AI, the role of conflicting technological frames of meaning and the result of the application of traditional family law doctrine to a value-incompatible technology.

Orford concerned a newly married wife who was unable to have intercourse with her husband due to great pain caused by her retroflexed uterus.[73] While her husband returned to Canada she remained in London seeking medical advice. She was told that a possible cure would be through bearing a child and that this might be done artificially. Hence, the wife decided to proceed with the help of a friend, Hodgkison, who agreed to act as the donor.[74] A cloud of secrecy shrouded the procedure. It took place not at a physician's office but at Hodgkison's apartment. It was performed by a physician unknown to the patient and furthermore, was executed while she was under anesthesia.[75]

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68. *See* SCHELLEN, *supra* note 27, at 20–22.

69. *See generally* Charles Gardner Child, Sterility and Conception (1922).

70. *See, e.g.*, Frank E. Abbett, *Some Observations on Artificial Impregnation*, 26 INDIANAPOLIS MED. J. 183, 189 (1923).

71. *See* Dickinson, *supra* note 61, at 260.

72. SCHELLEN, *supra* note 27, at 20–21.

73. Orford v. Orford, 58 D.L.R. 251, 252 (Ont. 1921).

74. *Id.* at 252–53.

75. *See id.* at 254. Interestingly, despite the secrecy enveloping the procedure the name of the donor—Hodgkinson—and the wife's maiden name were put on the birth certificate.

The detailed description in the *Orford* judicial opinion of the technological procedure itself and of the preparations that preceded it highlights the technological visibility of the debate in this early legal controversy. In addition, anesthesia was not a necessary component of this simple, unpainful procedure. Similar to the effort to involve the husband in the procedure, the resort to anesthesia demonstrates that the relation between sex and procreation was not only an external legal mechanism but was also deeply embedded in social morality. Rendering the wife unconscious served both the purpose of controlling her sexuality while another men's sperm was injected and of sparing her from fully facing the artificiality of the act. Thus again, moral inhibitions affected changes in the technological procedure.

Subsequently, the wife was rejected by her husband upon her return to Canada and filed suit for alimony. The husband raised adultery as a defense.[76] The *Orford* court repeatedly stressed its disbelief in the wife's story that the child was consummated through the procedure of AI. It believed instead that the child was conceived through sexual intercourse with Hodgkinson.[77] The court did not state any skepticism with regard to the feasibility of the procedure. Thus, it is hard to determine whether its incredulity was a result of scientific doubts, the rarity of such practice, or concerns with the wife's credibility.

One can find in the judgment the first appearance of the frames of meaning which accompany the technology of AI throughout its history. The wife repeatedly asserted that AI was a cure for her disability while the court was reluctant to accept this frame of meaning. In the court's own words, "She constantly spoke of it as a 'medical cure' for her affliction. There was not, of course, anything 'medical' about it."[78] Although not expressly stated, the court seemed to view the wife's act as a matter of choice and not as a cure for a medical condition. The discord between these two frames of meaning may provide at least a partial explanation to the court's disbelief.

Nevertheless, the *Orford* court chose not to hinge its judgment on the veracity of the plaintiff's version but to fully address the issue of AI. It held that the essence of adultery is not in the moral turpitude of the act of sexual intercourse but in the voluntary surrender to another person of

76. *Id.* at 252.

77. *Id.* at 254–55.

78. *Id.* at 254.

one's reproductive powers.[79] It further stated that to say that it is not adultery for a woman living with her husband to produce by artificial insemination a child of a man other than her husband would be a "monstrous conclusion."[80]

The judicial debate, thus, took a strong form of technological visibility thereby focusing on the technological act and its commonality with the natural act of intercourse. It did not expressly acknowledge the underlying social implication of enabling procreation without resort to sexual intercourse within the family. The court—while focusing on the technology—continued to apply its indirect tools of control to silently combat the underlying social implications to the value of the family. The indirect tool applied was the traditional doctrine of adultery, which was created to address this type of social threat. The court thereby refused to recognize that the tie between sex and procreation was already untied by the new technology in a way which made the application of this doctrine irrelevant to the debate.

Hence, at least 140 years after the invention of AI, the innovation was practically unused and when experimented with was enveloped by a cloud of secrecy. Limited efforts to use it encountered intense moral condemnation stemming mainly from the traditional tie between sex and procreation. Moral inhibition typically prevented AI's use altogether. But furthermore, even where such use was practiced, moral inhibition caused changes in the technological procedure. Interestingly, the moral force of the opposition to AI (both AIH and AID) was practically unrelated to express religious or legal pronouncements. Moral condemnation resulted from years of social control and was apparently deeply embedded in the social norms. The few legal cases that dealt with AI were characterized by a strong form of technological visibility. The technological visibility resulted in a focus on the nature of the technological procedure but was not accompanied by an express recognition of the effects on the family unit. This issue was dealt with indirectly through the concepts of adultery and illegitimacy. These traditional family law doctrines, although driven by a concept of the family institute which was incompatible with the one embedded in the technology, focused on the technology and not on the inherent incompatibility between the two conceptions of the institute of the family.

79. *Id.* at 258

80. *Id.*

III. FROM MORAL CONDEMNATION TO POPULAR PRACTICE

A. The Emergence of Popular Practice in a Volatile Climate

The shift in the diffusion of the technology of AI from clinical to popular use took place gradually over two decades—the 1930s and the 1940s. During this period, the use of AI underwent two transformations. First, there was a shift in the 1930's from clinical to limited public use. Second, there was a shift in the 1940's to popular use.

The exact extent in which AI was used in the 1930s is unclear. In 1934, one medical source intent on lifting AI from its god-forsaken place in the history of medicine wrote:

> Although this operation is so easy that it can be carried out by practically every physician, the medical profession generally, despite a number of important exceptions, is almost as ignorant of it as the laity who, by and large, do not even suspect the existence of such a method. For various reasons, in which moral prudishness plays a large part, this procedure is rarely carried out upon sterile women and never taught at the universities.[81]

Nevertheless, another source, relying on a semi-statistical survey, reported in the same year a somewhat different picture indicating that AI was known to the public. The results of the survey, completed by two hundred specialists, pointed out that fifty-six of the physicians surveyed received requests for AID. The physicians reported that most of the requests came in the last ten years, particularly in the last three or four. On this basis, the writers estimated that there were 1000–3000 requests per year for AID and that perhaps fifty to a hundred and fifty babies conceived using AID were born per year.[82] Moreover, an additional prominent medical source reported that AI attracted quite a little

81. ROHLEDER, *supra* note 28, at XVI–XVII.

82. J. Caldwell, *Babies by Scientific Selection*, SCI. AM. (n.s.) 124, 124 (1934). It must be noted that the survey included physicians who were considered to be more likely to receive these requests. Most were specialists listed in American Physicians and Surgeons and several had a national reputation for their knowledge of sterility and its treatment.

attention owing to the success of its practice.[83] However, both sources concluded that the practice of AI was not widespread.[84]

A significant increase in popular press articles discussing AI during the 1930s supports the conclusion that public awareness of AI was growing.[85] Nevertheless, the reports published in the popular press were not limited to informative accounts of the procedure, but included intimidating references to the possible eugenic effects of the technology and potential legal difficulties.[86] Furthermore, Aldous Huxley's famous book *Brave New World*, which was published in 1932, portrayed a terrifying picture of a world based on the efficiencies of artificial reproduction. In Huxley's world, pregnancies were achieved artificially through the external fertilization of a sperm and an ovum into embryos which were then developed in an incubator. This method enabled the maintenance of a world which was based on a eugenic ideology. People were created and bred into classified groups. Each group designated into a specific role: some designated to lead and some to occupy menial jobs.[87] It thus seems that although AI was reaching public consciousness and the exposure increased the use of the procedure, the publicity was also accompanied by negative intonations stressing chilling potential aspects of the procedure.

The publicity itself stemmed from changing public attitudes toward the technology. This change was related to the influence on social norms of a parallel social transformation—the birth control revolution and in particular to the effect of another medical artifact—the condom. Fertility rates continued to decline in the twentieth-century. Birth rates in the United States declined from about thirty births per 1000 women per year

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83. Frances I. Seymour & Alfred Koerner, *Medicolegal Aspects of Artificial Insemination*, 107 J. AM. MED. ASS'N 1531, 1531 (1936).

84. This conclusion was attached as an editor's comment to the Scientific American Article. Caldwell, *supra* note 82.

85. *See, e.g., Ghost Fathers: Children Provided for the Childless*, NEWSWEEK, May 12, 1934, at 16; *Proxy Fathers*, TIME, Sept. 26, 1938, at 28. Furthermore, methodological considerations support the accuracy of the second report, which was published in the Scientific American, against the first account written by Dr. Rohleder. The first report by Dr. Rohleder was, in large part, a backward looking project, surveying the medical literature, which reported use of AI. His estimate did not exceed a couple of dozen cases in history. The Scientific American report on the other hand, employed a "semi statistical" method surveying present practice.

86. *See, e.g.*, Anthony M. Turano, *Paternity by Proxy*, 43 AM. MERCURY 418, at 423 (1938); *When is Adultery?*, 44 AM. MERCURY 239 (1938)

87. ALDOUS HUXLEY, BRAVE NEW WORLD 1–18 (Harper Perennial 1998) (1932).

in 1909 to 18.4 births per 1000 women per year in 1933.[88] Birth rates declined despite encouraging factors such as increased sexual activity (urbanism enabled choosing an attractive partner), better health, earlier marriage, and safer childbirth. This indicated increased birth control efforts by married couples.[89] The increase in the use of birth control was related to the birth control movement led by Margaret Sanger. Sanger insisted that women's sexual liberation and economic independence depended upon the availability of safe, inexpensive and effective birth control.[90] Birth control became a mass market item in the 1930s. Commercial enterprises launched a successful campaign to persuade people to replace natural methods with commercial devices. Importantly, condom use increased dramatically, and became second to interrupted intercourse as the most popular method of birth control.[91] As discussed above, many of the objections to AI centered upon the artificiality of what was traditionally a natural act. Thus, in addition to the influence of increased women's autonomy and the separation between sex and procreation, the birth control movement contributed to the acceptance of AI through its introduction of artificial elements in the sexual arena.

The medical practitioners whose support was of extreme significance to the diffusion of the medical technology of AI, did not yet mobilize as a group to promote the technology. The physicians' attitudes were evidently affected by the changes in the general public's attitude. The change in the physicians' attitudes is reflected in the increased number of medical publications discussing AI. However, the position of the medical profession toward AI in general and AID in particular was mixed.

The semi-statistical survey portrayed this mixed position.[92] Fifteen of the fifty-six physicians who received requests for AID were not interested or objected to the practice. Eighteen of the fifty-six who received requests said that they performed AID. Twenty-two of the physicians surveyed said they turned applicants away for the following

88. GRABILL, *supra* note 53, at 25–26. It should be acknowledged that the Depression had an effect on the decrease in birth rates; although birth rates started rising in 1940, they reached at most 25 births per 1000 women in 1956 at the height of the baby boom.

89. *See* SUSAN HOUSEHOLDER VAN HORN, WOMEN, WORK AND FERTILITY, 1900–1986, at 32–45 (1988); SAMUEL RAYNOR MEAKER, HUMAN STERILITY 221–23 (1934).

90. Andrea Tone, *Contraceptive Consumers: Gender and the Political Economy of Birth Control in the 1930s*, *in* WOMEN AND HEALTH IN AMERICA: HISTORICAL READINGS, *supra* note 36, at 306, 310–11.

91. *Id.* at 306–09.

92. Caldwell, *supra* note 82, at 150–51.

reasons: (1) fear of being involved in subsequent legal proceedings; (2) anxiety that the husband might later change his mind; (3) the patient did not have her husband's consent; or (4) a belief that the public was not ready to sanction it. Most of the physicians, however, had no particular objections to the practice.[93]

Some practitioners, even among those involved in the execution of the procedure, exhibited extreme caution. One prominent medical professional in the field stated that AI should be treated only as an extreme measure and should not be repeated for a second child unless the first child was weak, sickly, or had died.[94] Furthermore, he described the attitude of his peers and the couples involved in the procedure to be repugnance and even disgust. He believed these attitudes were related to religious views, the belief that AI is unnatural, and people's perception of AI as running counter to medical ethics and to the morality of the couple.[95] As for AID, the physician reported there are very few AID cases known to him personally or through the literature. He believed that a physician should execute such a procedure only in exceptional circumstances.[96] Furthermore, he wrote that most other physicians who discussed the topic rejected AID altogether.[97]

At the same time, physicians involved in the treatment of infertility repeatedly emphasized that a diagnostic study of sterility in the couple must deal with the husband no less than with the wife. They expressly criticized the male reluctance to submit to infertility examination.[98] The medical insistence on the examination of the male brought into light a major reason for infertility which could be resolved by AID—deficiency in the sperm. Thus, despite the resistance among the medical profession and the general public, medical emphasis on the male in infertility testing increased the potential for AID practice.

A review of the conditions considered necessary for the procedure reveals that it was not only moral societal norms and legal uncertainty which held the practice back. It was technology itself, or more

93. *Id.*

94. ROHLEDER, *supra* note 28, at 108–09.

95. *Id.* at 139.

96. ROHLEDER, *supra* note 28, at 165–80.

97. *Id.* at 170. Other medical sources offered only cautious support for the procedure. *See* MEAKER, *supra* note 89, at 214; Grant S. Beardsley, *Artificial Cross Insemination*, 48 W. J. SURGERY OBSTETRICS & GYNECOLOGY 94, 97–98 (1940); Editorial, *Artificial Insemination and Illegitimacy*, 112 J. AM. MED. ASS'N 1832 (1939).

98. *See, e.g.*, MEAKER, *supra* note 89, at 80–82.

specifically the absence of scientific knowledge, which inhibited acceptance through the creation of intimidating treatment requirements. Although practical methods for determining the accurate time of ovulation were introduced in the 1930s, they were incorporated into the practice of AI only gradually.[99] During the 1930s, some medical practitioners still believed that a woman must be sexually aroused in order to facilitate the upward movement of the sperm and produce the alkaline secretion of the cervix necessary for the viability of the sperm. They, thus, held the view that intercourse must precede AI. The debate with regard to the value of intercourse before the execution of AI in order to produce an orgasm and increase the likelihood of ovulation apparently persisted into the 1940s.[100] Although this requirement was rationalized in scientific terms, it evidently manifested uneasiness with the artificial quality of the procedure. It resulted in an effort to achieve artificial procreation in conditions that resemble conception through sexual intercourse. Some couples were reluctant for this reason to use AI because it required the physician to come into the couple's bedroom right after intercourse to perform the procedure.[101] Thus, a loop was created. Moral norms encouraged the restructuring of technology to maintain the illusion of the inseparability of sex and procreation, and the restructured procedure reinforced the prevailing moral inhibitions.

By the 1940s another qualitative change in the diffusion of AI took place with a shift from limited to popular use. The change was evidently related to the great influx of popular press reports on the topic, which led an increasing number of couples to ask their physician about the possibility of having a "test-tube" baby.[102]

A study performed in 1941 demonstrated a significant increase in the use of AI. The study found that about 9,500 American women had achieved at least one pregnancy by AI. Moreover, it was reported that

99. *See* MICHAEL J. O'DOWD & ELLIOT E. PHILIPP, THE HISTORY OF OBSTETRICS & GYNECOLOGY 259 (2000); William H. Cary, *Experience with Artificial Impregnation in Treating Sterility: Report of Thirty-Five Cases*, 114 J. AM. MED. ASS'N 2183, 2184 (1940).

100. ROHLEDER, *supra* note 28, at 50–59; Frank E. Abbett, *Some Observations on Artificial Impregnation*, 26 INDIANAPOLIS MED. J. 183, 185 (1923); Alan F. Guttmacher, *The Role of Artificial Insemination in the Treatment of Human Sterility*, 19 BULL. N. Y. ACAD. MED. 573, 585 (1943).

101. *See* ROHLEDER, *supra* note 28, at 116–17; Abbett, *supra* note 100.

102. *See, e.g.*, J.P. Greenhill, *Artificial Insemination: Its Medicolegal Implications*, *in* MEDICOLEGAL PROBLEMS 43, 50 (Samuel A. Levinson ed., 1949).

about a third of the women were inseminated by the sperm of a donor.[103] This study was frequently attacked for its methodology, and its findings, which contradicted all former accounts, were questioned.[104]

However, whether such doubts were justified, this survey was important because it was the first large survey conducted. The survey included a group of 30,000 physicians.[105] It is quite possible, therefore, that had a study of this scope been conducted in the 1930s, or even earlier, it would have discovered that use of AI was far more extensive than portrayed at the time. It may very well be that moral inhibitions prevented researchers from executing the type of large statistical study that was performed in 1941. It is possible that before the 1940s no researcher felt comfortable piercing the veil of secrecy so abruptly by sending thousands of questionnaires around the medical community.

What can explain the shift from limited public use to popular use and to widespread publicity of the practice? One should acknowledge the possibility that the shift was more gradual than portrayed through the available statistical data. Even so, it is important to consider additional factors that entered the picture.

One such factor is related to the technological arena—the medical conditions to which the procedure was applied in the 1940s. The emphasis on male causes for infertility and the use of AID to resolve these cases increased the use of the procedure. AID was now much more frequently used and was applied in cases where the husband was infertile or when use of the husband's sperm could result in problem pregnancies or the birth of an ill child.[106] Nevertheless, the increase in the number of medical conditions to which AI was applied can serve only as a partial explanation for the shift to popular use. It does not explain the source of the public's increased willingness to accept this controversial procedure.

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103. *See* Frances L. Seymour & Alfred Koerner, *Artificial Insemination: Present Status in the United States as Shown by a Recent Survey*, 116 J. AM. MED. ASS'N 2747, 2747 (1941).

104. *See generally*, Claire E. Folsome, *The Status of Artificial Insemination: A Critical Review*, 45 AM. J. OBSTETRICS & GYNECOLOGY 915 (1943); Guttmacher, *supra* note 100, at 577–79.

105. Former accounts surveyed much smaller groups. Rohleder's report was limited to a literary survey and the Scientific American report survey encompassed only 200 physicians. Moreover, as discussed earlier, since the 1930s there was a trend toward increased acceptance of AI. This study was conducted in 1941 and the figures reported in subsequent studies did not contradict these numbers.

106. Cases mentioned were (1) the complete absence of sperm; (2) grossly defective sperm; (3) the likelihood of inheriting a genetic disease; and (4) Rh incompatibility. *See* Greenhill, *supra* note 102, at 46–47; Abel Stuart, *The Present Status of Artificial Insemination*, 85 INT'L ABSTRACTS SURGERY 521, 521–22 (1947).

The most plausible explanation for the shift to popular use is related to the effect of World War II on women's role in society combined with further technological advances in the parallel birth control front. The War brought with it a transformation in the autonomy of women. During the War, the number of women in the work force increased by fifty percent.[107] Furthermore, the necessities of the War enabled many married women to enter the labor market for the first time.[108] In 1940, married women were barely a third of the work force while by 1950, despite the end of World War II, they still made up fifty-two percent of that group.[109] Although people generally disapproved of women participating in the workforce when the woman was also a care provider for children, an increase in married women's economic autonomy affected their overall perception of autonomy.[110] Furthermore, women's autonomy was traditionally inhibited by the connection between sex and procreation. As was pointed out earlier, this relationship had been weakening since the nineteenth-century when women sought to control their bodies' procreative activity through use of contraception. By 1940, a broader range of artificial contraception devices were in use (these included diaphragms, condoms and the antiseptic douche) in lieu of the method of interrupted intercourse.[111] Thus, increase in the popular use of AI again coincided with increased women's autonomy. This was accompanied by a further separation of the tie between sex and procreation, this time motivated mainly by the use of artificial devices.

Another indirect effect of the War on the diffusion of AI was to enhance the perceived need for the technology's usage. Following the War there was a large increase in birth rates. The baby boom, which followed World War II, significantly affected birth rates during the 1940s and the 1950s.[112] Reports in the popular press during the 1940s pointed to the relationship between the need for revitalization through birth to overcome the devastation of the War and the urgency of solving infertility problems. AI was offered as a solution. These popular reports

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107. WILLIAM HENRY CHAFE, THE AMERICAN WOMAN—HER CHANGING SOCIAL, ECONOMIC AND POLITICAL ROLES, 1920–70, at 135–150 (1972).

108. *Id.* at 144–46.

109. *See id.* at 174–95; DEGLER, *supra* note 38, at 418.

110. *See* CHAFE, *supra* note 107, at 174–95.

111. Tone, *supra* note 90, at 306–09.

112. The birth rate for third children doubled between 1940 and 1960 and that for fourth children tripled. CHAFE, *supra* note 107, at 217. At its peak in 1957, the rate of childbirth was fifty percent higher than in 1940. HOUSEHOLDER VAN HORN, *supra* note 89, at 85.

were not without the eugenic overtones that accompanied press reports of AI in the 1930s. One such Article reported a proposal to establish clinics in different European cities where the wives of impotent husbands could be artificially inseminated by the sperm of a *superior* man of the same nationality.[113] Through its devastation, World War II increased the pressure for curing infertility.

As the extent of the diffusion of AI and particularly AID shifted from limited to popular use, controversies regarding the rights and duties of the involved parties started reaching the courts. The cases, however, remained few and far between and demonstrate the failure of the law to provide the legitimacy and certainty that would encourage greater diffusion of the technology.

In 1945, an unreported United States case, *Hoch v. Hoch* was adjudicated on facts which were similar to those of the Canadian *Orford* case.[114] The court, however, reached an opposite conclusion with regard to AID. On the facts of the case, the court found that the wife, in fact, committed adultery the old fashioned way and therefore granted the husband a divorce. Nevertheless, it opined that had the wife proven that the child was consummated through AID and not sexual intercourse, she could not be divorced because AID does not constitute evidence for adultery.[115]

This was followed by the far more conspicuous New York case of *Strnad v. Strnad*.[116] This decision dealt with the claim of the father for visitation rights of his child, who was born through AID.[117] The court granted the husband visitation rights.[118] It held that the child was "semi-adopted" and therefore, the husband was entitled to the same rights as those acquired by a foster parent who has formally adopted a child, and possibly to the rights of a natural parent.[119] In addition, the court

113. *See* Editorial, *Substitute Fathers*, NEWSWEEK, Sept. 1943, at 87; Marie Baynon Ray, *Father Anonymous*, WOMAN'S HOME COMPANION, Jan. 1945, at 20.

114. *See supra* notes 73–80 and accompanying text.

115. Rice, *supra* note 32, at 514.

116. Strnad v. Strnad, 78 N.Y.S.2d 390 (Sup. Ct. 1948). *See, e.g., Paternity Rights at Issue in Suit*, N.Y. TIMES, Jan. 14, 1944, § 4 (magazine), at 19.

117. *Strnad*, 78 N.Y.S.2d at 390–391.

118. *Id.* at 391.

119. *Id.* at 391–92.

indicated by dicta that the child was not illegitimate. However, it refused to decide the property rights of the child or the sanctity of AID.[120]

Nevertheless, the uncertain legal status of AI rendered this decision ineffective. The wife took the AID child to Oklahoma and refused to permit the husband to exercise his visitation rights. An Oklahoma court reached an opposite result from that of the New York court. It upheld the wife's position and ruled that the child was illegitimate, was the child only of his mother and that the husband had no visitation rights.[121]

The legal debate in the *Strnad* case deviated from the general trend of technological visibility, which dominated the legal discourse during that period, and is an early example of technological invisibility. The court did mention that the child was conceived through AI but did not focus on the nature of the procedure itself. Instead, it focused on the resulting family relationship under the specific circumstances. Yet, technological invisibility was not accompanied at this stage by an awareness of the social ramifications of the technology.

The *Hoch* and *Strnad* cases were the first legal proceedings in the United States that addressed AI and their contradictory results served to enhance the uncertainty with regard to the legality of the procedure and its consequences.[122] These cases demonstrated the tension between the two incompatible conceptions of the family. Those advocating the technology, and thereby the notion of procreation outside the nuclear family, believed that sex and procreation should be separated and that the traditional concepts of adultery and illegitimacy should not be used in this context. On the other hand, those who objected to the technology endorsed the notion of the nuclear family and the use of the traditional modes of control.[123] The objectors were supported by the backward

120. *Id.* at 392.

121. *Id.*; Rice, *supra* note 32, at 517.

122. It should be noted, that the contradictory results cannot be explained on the basis of gender discrimination designed to grant the husband a favorable legal outcome. It was not always the case that whenever the husband requested rights in the child, the court found the child to be legitimate and therefore granted the husband the requested rights. Nor was it always the case that whenever the husband denied his responsibilities for the child, the court found the child to be illegitimate or the wife to have committed adultery, thereby exonerating the husband from liability. In *Strnad* where the husband sought visitation, the New York court indicated the child to be legitimate while the Oklahoma court found him to be illegitimate. And in the *Hoch* case where the husband filed suit for adultery the court refused to hold that AID constitutes adultery.

123. *See, e.g.*, Koerner, *supra* note 50, at 494 (commenting on the need to separate sexuality and procreation and arguing that AI must be distinguished from sexual intercourse because applying the prohibition against promiscuous intercourse to AI is meaningless).

looking nature of the common law system, that is, the precedent system's institutional tilt against adoption of new governing principles and abandonment of old methods of control.[124]

The legislatures of several states, which at least structurally were not backward looking, made several efforts at the end of the 1940s to install some certainty into the legal status of AI. However, seven bills that were introduced in four states and were intended to legitimize AID children all failed.[125] This failure points to a legislative reluctance to take a stand on an issue which at this point was still very morally controversial.[126]

The only relevant law in effect in the 1940s was a directive drawn up by the Department of Health of New York City in 1947. Section one hundred and twelve of the Sanitary Code of New York forbade anyone who was not a licensed physician to collect, offer for sale, sell or give away human semen.[127] That Code also included an applicable section imposing upon the doctor the duty to keep confidential records of his work on AI and to examine the donor for venereal or other relevant diseases.[128] This regulation implicitly recognized the legality of AI.

The legal uncertainty did not remain hidden from the general public and the ambiguity in the legal sphere, therefore, influenced the social arena. The reports featured in the popular press tended to portray AI positively, however, they did dedicate a significant part of the discussion to the related legal problems. The reports not only discussed legal

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124. In Carl Schneider's description of the channeling function he mentions efficiency as one of its goals. Schneider explains that efficiency operates to spare people from having to invent forms of life de novo. Schneider, *supra* note 22, at 506–11. However, the channeling power of the law can operate inefficiently at times of technological upheaval. The law's channeling function bound by existing arrangements may fail to readjust to the new reality. Thus, inertia is created which mistakenly replaces order for efficiency. The law becomes detached from the novel state of affairs produced by the technological change and social efficiency is replaced with internal efficiency.

125. *See* George P. Smith, II, *Through a Test Tube Darkly: Artificial Insemination and the Law*, 67 MICH. L. REV. 127, 143 (1968) (referring to AI bills in Indiana, New York, Virginia and Wisconsin in 1948–50). Several bills were also introduced in Minnesota in 1949. The Minnesota bills would have made AI unlawful but would have legitimized the children. *See* Arthur A. Levinson, *Dilemma in Parenthood: Socio-Legal Aspects of Human Artificial Insemination*, 4 J. FORENSIC MED. 147, 166 (1957).

126. The explanations given for these failures did not really clarify their cause. Their main theme was that such laws were unnecessary because the rights and duties of parties involved were clear under existing law. *See In re* Adoption of Anonymous, 345 N.Y.S.2d 430, 432 (N.Y. Sup. Ct. 1973); Barry Stephen Verkauf, *Artificial Insemination: Progress, Polemics, and Confusion—An Appraisal of Current Medico-Legal Status*, 3 HOUS. L. REV. 277, 298 (1966).

127. Abner I. Weisman, *The Medical Viewpoint*, 7 SYRACUSE L. REV. 96, 98 (1955).

128. SCHELLEN, *supra* note 27, at 317.

uncertainty regarding the litigated issues of adultery and legitimacy, but also raised issues which had not yet been litigated at that point, such as the legal status of the donor.[129]

At the same time during the 1940s, despite the increasing legal uncertainty, the attitudes of the medical profession toward AI began to diverge from those of the general public. Physicians started undertaking a leading role in the fight for the socio-legal acceptance of AI.

The shift in attitudes toward AI and AID in particular was manifested in a poll conducted in 1947 by the American Society for the Study of Sterility. The Society polled its members regarding their attitudes toward AID. Fifty-two physicians approved of the procedure while twelve disapproved. Of those disapproving, two disapproved on legal grounds, two on religious grounds and four on both legal and religious grounds.[130] This manifested a significant shift from the attitudes toward AID reported during the 1930s. One could, however, still find caution expressed by doctors using AID as to the conditions in which it should be utilized. Statements were made, for example, advocating careful screening in lieu of mass usage.[131]

The growing support of AI by infertility experts was evidenced in their effort to downplay the effects of the prevailing legal uncertainty. For example, an opinion furnished by the Bureau of Legal Medicine of the American Medical Association stated that "[n]o act is illegal unless prohibited by some law, either written or unwritten, and society has formed no opinion and enacted no law regarding artificial insemination."[132]

By the end of the 1940s, AI had achieved growing popular use. The causes of the growing acceptance were only loosely related to advances in the technology itself. AID was known before this period and no significant new application for the technology came up during this period. Furthermore, the rate of success was not an issue in any of the legal cases or the popular press reports. It can, therefore, be surmised that

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129. *See, e.g.*, Ray, *supra* note 113, at 47; *Stand*, TIME, May 19, 1947, at 76.

130. Alan F. Guttmacher, *The Role of Artificial Insemination in the Treatment of Sterility*, 15 OBSTETRICAL & GYNECOLOGICAL SURVEY 767, 780 (1960).

131. Greenhill, *supra* note 102, at 50–51. *See also* Stuart, *supra* note 106, at 521; Guttmacher, *supra* note 100, at 589–90.

132. Beardsley, *supra* note 97, at 97. Although it should be noted that other medical sources were more cautious. One such source who spoke in a symposium held in 1945 admitted that those involved in the procedure are presently betting on the fact that there are no legal rulings, apart from that of the *Orford* case, against the procedure. *See* Greenhill, *supra* note 102, at 55–56.

improvements in the rate of success, whether real or illusionary, were immaterial to the acceptance of the technology.[133] The simple nature of the procedure and the couples' desire for a baby made the exact rate of success apparently irrelevant to their willingness to undergo the procedure. Thus, the AI technology itself apparently did not play a major role in the acceptance process during this period.

In sum, moral social norms, World War II, advances in the parallel technology of birth control, and the law were the main influences during this period. The increasing autonomy of women, in particular as it related to their effort to gain control over their bodies through the separation of sex and procreation by use of artificial methods of birth control, in combination with the historical circumstances of World War II acted to weaken moral inhibitions regarding AI. However, the remaining force of moral norms aimed at the maintenance of the nuclear family was manifested through the law's indirect means of control. The law began taking its role as a major inhibiting force in the acceptance process of AI. This role was undertaken as the legal debate started inflicting a sense of indeterminacy upon the social debate. The practical legislative vacuum and the few conflicting legal cases induced uncertainty as to the legal ramifications of the procedure. Thus, the law became the conservative force in face of a trend of dissolution of the moral norms related to the regulation of society into nuclear organic family social units.

Of significance to the new balance between the social norms and the law was the novel role gradually taken upon by the medical profession. Physicians, in particular those involved in infertility treatment, were no longer swayed by the public opinion but began taking a leading role in encouraging the use of AI despite the growing threat of legal uncertainty. This mediating role, as will be seen in the next section, was of extreme significance in the socio-legal acceptance process of AI.

133. It is hard to ascertain whether the rate of success in the use of AI changed dramatically through the years because it depended upon the infertility conditions to which the procedure was applied. Most sources throughout the history of AI point to a 30% rate of success for AIH and a 50–80% rate of success for AID. *See* ELIZABETH NOBLE, HAVING YOUR BABY BY DONOR INSEMINATION 100 (1987); ROHLEDER, *supra* note 28, at 129–30; SCHELLEN, *supra* note 27, at 190–203; Andree Schoysman-Deboeck et al., *Results in 65 Couples*, *in* HUMAN ARTIFICIAL INSEMINATION AND SEMEN PRESERVATION 231, 247 (Georges David & Wendel S. Price eds., 1980).

B. *Use in the Shadow of the Law*

The 1950s were characterized by enhanced diffusion manifested by growing public awareness and use of AI. The extended diffusion was accompanied by contradictory legal judgments, a legislative vacuum, and the promulgation of opinions regarding AI by different religious authorities.

Various sources demonstrated that by the 1950s, AI was well known to the public. The many newspaper and magazine articles published during that decade generally reflected a positive attitude toward AI.[134] A survey conducted in 1957 to examine women's feelings toward AI found that both AIH and AID were considered acceptable measures and preferable to adoption.[135] Nevertheless, the veil of secrecy that traditionally surrounded the procedure was maintained even in this era of increasing popular use. Unlike adopted children, AID children were not told about the method of their conception and believed their father to be their genetic father.[136]

The changing societal attitudes toward AI were reflected most importantly in the increase in the use of the procedure. There is no formal statistical survey that reflects the extent of the use. Furthermore, such statistics would have limited value due to the air of secrecy enveloping the procedure.[137] However, several evaluations made in the 1950s estimated that 10,000 to 100,000 individuals conceived through AI were alive in the United States.[138] In addition, one source estimated that there were 1,000–1,200 AI children born each year in the United

134. *See* SCHELLEN, *supra* note 27, at 229–31. *See also Doctors Endorse Test-Tube Births*, N.Y. TIMES, June 5, 1953, at 53; Alan F. Guttmacher, *Test Tube Paternity*, NATION, Mar. 29, 1958, at 269; *Our Two Test Tube Babies*, CORONET, Mar. 1956, at 66; *Test-Tube Babies*, NEWSWEEK, Dec. 27, 1954, at 48; *Test-Tube Test Case*, TIME, Dec. 27, 1954, at 52; *Test-Tube Birth Hit*, N.Y. TIMES, Dec. 18, 1954, at 11.

135. Levinson, *supra* note 125, at 170–71. It must be noted, however, that the survey was not based on statistical sampling methods and may not reflect the sentiments in the general population. For instance, only one Catholic replied to the survey.

136. *See, e.g., Our Two Test Tube Babies*, *supra* note 134, at 69. The editors' note that accompanied the article, which was written by an AID mother, stated that the writer's name "for obvious reasons cannot be revealed." The writer herself further elaborated that the need for secrecy is required because society is not ready and may never be to accept these children.

137. Rice, *supra* note 33, at 511.

138. William Mangin, *The Sociological and Anthropological Viewpoint*, 7 SYRACUSE L. REV. 106, 106 (1955); *id.* at 512; *Test Tube Babies*, *supra* note 134.

States.[139] Most importantly, commentators agreed that there had been a huge increase in AI usage since the early 1930s.[140]

The increased public awareness and use of the technology of AI and particularly of AID resulted in the formulation of opinions on the topic by various religious leaders. This came in stark contradiction to the virtual religious silence throughout the first half of the twentieth-century.

The Catholic Church ruled out the legitimacy of both AIH and AID. Pope Pius XII commented on the topic on three occasions in 1949, 1951 and 1956.[141] His rejection of AIH was based on his view that it reduced the cohabitation of married people and the conjugal act to a mere organic function. This, the Pope commented, would convert the sanctuary of the family into nothing more than a biological laboratory.[142] However, since the Pope added that he did not necessarily condemn the use of certain artificial means to facilitate the conjugal act or attain its objective, some Catholic authorities did not think that the door had been completely shut.[143]

In 1948, a thirteen-member commission of the Church of England endorsed the practice of AIH.[144] As for AID, the Commission differentiated it from adultery because the latter injures the partner, the family and society while AID does not necessarily do so. However, it stated that AID is a wrong despite the fact no sexual pleasure is involved. It finally concluded that it could not condone AID because the donor illicitly invades the marriage and the wife, despite her good intentions, breaks her marriage vows. In 1949, the Archbishop took a stronger stance, stating that AID is adultery because of the relation to the sexual and reproductive organs.[145]

As for the Jewish religious authorities, most Orthodox Jewish authorities seemed to agree that AIH was impermissible except in cases where no children are born after ten years of marriage and where it was

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139. Rice, *supra* note 33, at 512.

140. Levinson, *supra* note 125, at 148.

141. *Id.* at 149–151.

142. Pius XII, *Allocution: Artificial Insemination* (Sept. 29, 1949), *in* 3 THE CANON LAW DIGEST: OFFICIALLY PUBLISHED DOCUMENTS AFFECTING THE CODE OF CANON LAW 1942–53, at 432–33 (T. Lincoln Bouscaren ed., 1953); Pius XII, *Allocution: Artificial Insemination Condemned* (Oct. 29, 1951), *in* 3 THE CANON LAW DIGEST: OFFICIALLY PUBLISHED DOCUMENTS AFFECTING THE CODE OF CANON LAW 1942–53, at 434 (T. Lincoln Bouscaren ed., 1953).

143. Pius XII, supra note 142; Levinson, *supra* note 125, at 150.

144. SCHELLEN, *supra* note 27, at 358–59.

145. *Id.* at 359–60.

impossible to have children by any other means. Moreover, this fact had to be established by the expert opinion of two doctors and two rabbis.[146] As for AID, the practice was forbidden, but AID children were considered legitimate if the insemination occurred by accident.[147] Conservative or Reform Jewish authorities either did not formulate a position by the end of the 1950s or viewed both AIH and AID to be permissible.[148]

The official religious proclamations arrived surprisingly late in the evolution of AI. Therefore, the proclamations did not provide the source of the prevailing social sentiments but merely an additional reflection thereof or at most support for existing sentiments. Although some religious authorities vehemently opposed AID, the opposition was not as intense as that provoked by other techno-social practices such as abortion. As for AIH, it is apparent that most religious authorities did not oppose its use. A mix of technological visibility and an appraisal of the ramifications to the marital connection characterized the nature of the religious discourse. Yet in contrast to the legal debate, technological visibility was accompanied by a discussion of the social ramifications of the technology. However, the acknowledgment of the social ramifications was of a limited nature. It did not address the technological social implication inherent in the technology, that is, the overall effects on the traditional nuclear family of enabling procreation without sex between the married couple. Instead, it focused on a partial picture of the marital connection, without taking into account the AID child and the construction of an alternative family unit.

Growing public acceptance was accompanied by lingering inhibitions, which gained some support from proclamations made by religious authorities. What, then, was the driving force behind the growing acceptance of the technology of AI? One possible explanation would be the degree of technological progress. However, although changes in the technology may have had a certain positive influence on the societal acceptance of AI the major technological progress of the decade was itself restrained by socio-legal forces.

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146. Levinson, *supra* note 125, at 154.

147. *Id.* at 154–55. The source of the rationale for legitimizing AID by accident is in the Talmud. The Talmud reported that the prophet Jeremiah's daughter took a bath in the same water her father bathed in. His semen was in the water and she was inseminated by accident and gave birth to a son, Ben Sirah. *Id.*

148. *Id.* at 155–56.

Understanding of women's fertility cycles and the timing of ovulation served to eliminate the requirement that sexual arousal of the woman immediately precede insemination. The medical literature no longer reported the appropriate timing for insemination to immediately follow the woman's orgasm.[149] This also removed the need to have the physician come into the couple's bedroom right after intercourse—an awkward part of the procedure for all involved. The effect of this was twofold. First, it made a larger number of couples feel at ease about the procedure. Secondly, it eradicated practical obstacles, which at times had confined the procedure to the couple's bedroom. Execution of the procedure in the physician's office was significant because it enhanced the medical aura of the procedure—its "cure" aspect.

The main technological advance, however, was the discovery in 1949 of the protective action of glycerol during the freezing and thawing of the sperm. Yet, emphasis was placed on use of the discovery for the insemination of farm animals and not for human insemination. The discovery of glycerol was eventually followed, only four years later, by the discovery of a method of improving sperm preservation. This involved utilizing glycerol and taking into account the rate of freezing, and achieved a sixty-seven percent survival rate of sperm following three months of storage. The method further demonstrated that sperm which was kept motile by freezing was capable of fertilizing an egg and preserving normal embryonic development.[150]

These discoveries could have served as a foundation for the opening of sperm banks. These would have enabled: concentrating several batches of sperm from husbands with low sperm count, storing sperm from different donors to insure availability, and storing men's sperm for use at a later time.[151] Yet, despite the possibility to efficiently freeze sperm and develop sperm banks only one sperm bank was founded in the United States throughout the 1950s.[152]

The explanations for the delay are of both a technological and socio-legal nature. There are two technological explanations. First the technique was incorrectly used or did not give optimal results after long periods of storage. Secondly, that frozen storage was considered

149. *See* SCHELLEN, *supra* note 27, at 126–36; Weisman, *supra* note 127, at 99.

150. J. K. Sherman, *Research on Frozen Human Semen: Past, Present and Future*, 15 FERTILITY & STERILITY 485, 487–88 (1964).

151. *Id.* at 490–91.

152. *Id.* at 488.

relatively expensive and inefficient for small quantities of semen, which were infrequently used.[153]

In addition, there are several explanations of a socio-legal nature. First, AID was not sufficiently widespread, thus, demands for the advantages of stored semen were comparatively slight. Second, physicians were hesitant to try something new, which introduced another non-physiological factor through the process. Third, it was felt that the religious, legal and political obstacles inherent in AID should not be exacerbated further through the creation of sperm banks.[154]

The socio-legal explanations point to an unexpected mechanism by which those who desired to promote the acceptance of the technology acted to hold it back. For the sake of achieving the acceptance of the basic AI technology those advocating the use of the technology preferred to inhibit it from evolving further into the creation of sperm banks. In other words, those promoting the separation of sex and procreation were afraid to take their project further by inserting an additional artificial factor.[155]

On the legal front—uncertainty continued to prevail. Increased use and publicity in the 1950s were accompanied by a growing number of contradictory legal opinions. In the infamous case of *Doornbos v. Doornbos*[156], a declaratory judgment was issued stating that while AIH was legal and not contradictory to public policy and good morals, this was not the case with AID. AID, whether executed with or without the consent of the husband, was found to be contrary to public policy and good morals and to constitute adultery. Furthermore, the child born through AID was considered born out of wedlock and the court determined that the father had no rights or interests in the child.[157] The

153. *Id.*

154. *Id.*

155. This can be explained by viewing the physicians as change agents seeking to achieve a state of *dynamic equilibrium* in lieu of a state of *disequilibrium*. A state of dynamic equilibrium takes place when the rate of change in the social system is commensurate with the system's ability to cope with it. The change occurs at a rate that allows the system to adapt to it. On the other hand, a state of disequilibrium takes place when the rate of change is too rapid to permit a social system to adjust. Thus, the physicians' efforts to prevent the opening of sperm banks can be explained as an effort to achieve dynamic equilibrium. ROGERS, *supra* note 9, at 424–25.

156. 23 U.S.L.W. 2308 (Ill. Sup. Ct. 1954).

157. *Id.*

decision of the court in this case attracted widespread publicity in the lay press and in medical journals.[158]

To add to the amalgamation of legal contradictions, a year later another far less publicized New York case reached a different result. Although not ruling directly on the issue of AID, the court stated that the wife was estopped from claiming that the children were conceived through donor insemination in order to deny the husband visitation and custody rights when she did not raise such a claim in either the separation or the divorce proceedings. The court found that such estoppel was necessary to preserve the best interests of the children.[159]

The legal uncertainty in the 1950s, like the general societal debate, focused on AID. As in the 1940s, legal cases were few and contradictory and were again accompanied by a legislative silence. One possible reason for the legal vacuum was the secrecy of the entire operation.[160] An additional reason was the influence of the rules of evidence. Several evidentiary rules reduced the likelihood that the issue of AID would be litigated on its merits. First and foremost of those was the presumption of the legitimacy of the child.[161] Also of significance was the rule prohibiting husband and wife from testifying against each other on the issue of adultery in a marital proceeding founded on this issue; the rule disabling a spouse from testifying, without the consent of the other, to confidential exchanges made during marriage; and the general incompetence of a spouse to testify to the absence of consummation during wedlock where the effect would be to show the illegitimacy of the offspring.[162]

Thus, it is possible to discern two ways in which legal inertia was developed. First, the law failed to adjust to the technology of AI due to its adherence to traditional forms of control. Second, the legal procedure inhibited discussion and clarification of issues surrounding AI.

The law exerted social control by adhering to the concepts of adultery and legitimacy through which it sought to maintain the traditional tie between sex and procreation. Although not uniformly, most legal cases dealing with AI were still characterized by technological visibility. The focus on the technological details concealed the effects on the social

158. *See, e.g.*, Levinson, *supra* note 125, at 153–56; *Test-Tube Test Case*, *supra* note 134.

159. Abajian v. Dennett, 184 N.Y.S.2d 178, 182–83 (N.Y. Sup. Ct. 1958).

160. Rice, *supra* note 34, at 521.

161. *Id.* at 521.

162. *Id.*

ramifications, that is, the ability to procreate without resort to sexual intercourse within the nuclear family. The rationale underlying the legal action was that enabling procreation outside the nuclear family unit would disintegrate the organic units and result in disorder. However, it was demonstrated that retaining the tie between sex and procreation would, in fact, achieve the opposite result. Social science researchers who conducted a survey in 1954 showed that it was not AID that broke up family life, but the infertility and the consequent childlessness that tended to disintegrate the family units. The study established that barren marriages were at least twice as likely to break up as those that had children to hold them together.[163] Thus, the application of the traditional control mechanisms to protect the nuclear family unit could in fact break it up. It could also bring into the picture additional players, such as the donor who never intended to partake a role in such a family, or could merely increase the incidence of divorce. Thus, the legal inertia not only inhibited progress, but also contributed to the disintegration of the family unit—the very opposite of the result sought.

The inhibition created through the rules of evidence was the other cause of legal inertia. The procedural aspects of the law stagnated its evolution by preventing issues from being discussed and clarified. Here, procedural measures—structured to protect the traditional family unit—prevented the resolution of novel issues stemming from new technology and in effect, as discussed above, enhanced the likelihood of reaching the opposite result.

The public did not remain oblivious to the increasing and unresolved legal uncertainty. The popular press consistently described the legal uncertainty and reported new developments.[164] The significant weight given by the public to the legal situation was demonstrated by the findings of the previously mentioned survey, which described women's attitudes toward AI.[165] Overall, the women surveyed believed that children born through AI should be considered legitimate if the husband had consented to the procedure. However, at the same time, the survey

163. Herbert D. Lamson et al., *Sociological and Psychological Aspects of Artificial Insemination*, 145 J. AM. MED. ASS'N 1062, 1063 (1954). The authors took into account that some barren marriages are not the result of infertility, but of an unsuccessful marriage which later leads to divorce. Nevertheless, even after accounting for this fact, the results remained striking.

164. See, for example, the following Articles reporting on the *Doornbos* case: *Mother Wins Divorce*, N.Y. TIMES, Jan. 19, 1955, at 14; *'Test Tube' Baby Ruling*, N.Y. TIMES, Dec. 14, 1954, at 39; *Test-Tube Babies*, *supra* note 134; *Test-Tube Test Case*, *supra* note 134.

165. *See supra* note 135 and accompanying text.

indicated that most women would not use AI if the courts would hold that it would render the child illegitimate.[166] Furthermore, the legal threat prevented the issues of adultery and illegitimacy from disappearing from the public debate. The public debate, thus, like its legal counterpart, often took the form of technological visibility by comparing the artificial quality of the procedure to natural conception. One writer described her feelings as follows: "Have I committed adultery? Adultery connotes a certain pleasure. What could be further from pleasure than lying on a hard (the doctor calls it "firm") table two or three times a month, at $30 a session, contemplating that white ceiling?"[167]

It is apparent that the growing acceptance of AI cannot be explained by transformations in the technological or legal arenas. The legal sphere, in particular, proved to be a major force inhibiting the acceptance of AI. As it turns out, it was the medical profession that became a major mobilizing force behind the growing acceptance of AI. It was the medical profession that united behind AI and sought to mediate between the restraints imposed by legal uncertainty and the use of the technology.

In the 1950s, the medical profession (or at least those engaged in infertility treatments) finally granted its full support to the use of AI in general and AID in particular. An opinion issued in 1955 by the American Society for Study of Sterility evidenced this move.[168] The opinion represented the views of 500 specialists in the area of sterility. It approved AI in both its forms as a completely ethical, moral, and desirable method of medical therapy. The opinion concluded that AI over the years achieved "almost universally good" results for the family unit.[169] The infertility physicians united behind the frame of meaning that conceived of AI as a cure for infertility rather than as a matter of choice. They believed that this cure should not be denied. In the words of one such medical commentator: "[t]he population of this country today includes around 1,000,000 potentially fertile women who are sterilized by social circumstances."[170]

The physicians, faced with increasing public interest, lingering moral and religious scruples, and no legal guidance, were forced to improvise in a foreign field. They rightly noted that the crux of every legal question

166. Levinson, *supra* note 125, at 170–71.

167. *Our Two Test Tube Babies*, *supra* note 134.

168. Levinson, *supra* note 125, at 166.

169. *Id.*

170. Lamson, *supra* note 163, at 1062.

with regard to AID is the status of the child with respect to its mother's husband, institutional patterns, and ground rules that were created to attest and bind the mother, husband, and child as a nuclear family. The practices developed by the physicians to combat legal uncertainty originated in the1930s.[171] However, as discussed below, it was only in the 1950s that such practices were repeatedly accounted for and reported from corresponding sources.[172]

The physicians undertook two types of efforts. First were the efforts to blur the facts in order to make it impossible for an arbiter in any subsequent legal dispute to determine the source of the sperm from which the child was conceived (through donor or through husband). Second, they focused their efforts on procedures and advice that would make future legal disputes less likely.

The physicians' efforts to conceal facts surrounding AI consisted of several tactics. The first tactic related to a change in the technological procedure itself. When performing AID, the physician at times chose to inseminate the wife with a mixture of the husband's and the donor's semen. Adding the semen of the infertile husband was known to be medically ineffective. The physicians acknowledged that they performed the practice for two reasons: first, in order to give the husband some hope that the child might be his, and second, to make it impossible for a subsequent legal inquiry to determine that the child was conceived through AID.[173]

Genetic testing was not yet invented. The available option of paternity blood testing was relatively inconclusive. The tests, which were based on examining the blood type of the father and the child, enabled only the exclusion of the potential father if the blood types did not correspond but did not enable the identification of the donor. In addition, courts conflicted as to the tests' admissibility and the evidentiary weight they

171. *See* Seymour & Koerner, *supra* note 83, at 1533. Dr. Koerner, who was both an attorney and a physician practicing AI, proposed in both articles ways in which physicians could deal with the legal hazards surrounding the procedure.

172. One can fairly assume that these practices were under-reported as part of the secrecy enveloping the entire practice of AI. However, the number and type of reports published in the 1950s seem to indicate a shift in the popularity of these measures.

173. Mangin, *supra* note 138; *Test-Tube Test Case*, *supra* note 134. A later report also substantiated the intent to evade the law. *See* S.J. Behrman, *Techniques of Artificial Insemination*, *in* PROGRESS IN INFERTILITY 717, 721 (S.J. Behrman & Robert W. Kistner eds., 1968).

should be accorded.[174] Thus, in the 1950s, this practice could still provide a certain form of shield. An additional tactic involved matching the blood type of the donor to that of the husband, making it impossible to prove that the husband was not the father of the AID child.[175] And, in another effort to maintain secrecy as to the origin of the sperm, some doctors would falsely swear the husband to be the father and enter his name on the birth certificate even when the sperm was a donor's.[176] Physicians reluctant to falsely swear to the husband's paternity would send the couple elsewhere for birth where an unknowing physician would innocently do so.[177] In addition, many physicians intentionally avoided keeping any permanent records of the AID procedure to prevent future factual determination.[178]

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174. The discovery that blood can be classified into blood types that are inherited from the parents was made by Karl Landsteiner in 1901. Robert E. Keith, *Book Review: Probability of Inclusion in Paternity Testing, at* http://www.acf.dhhs.gov/programs/cse/new/csr8306.htm (last visited Feb. 3, 2002). Blood testing, however, enabled only the exclusion of someone for not being the father because his blood type could not produce a child with the specified blood type. It was impossible to prove paternity positively because many men belong to each blood group. SIDNEY B. SCHATKIN, DISPUTED PATERNITY PROCEEDINGS 90–96 (1st ed. 1944). In addition, paternity blood testing was not quickly embraced by the courts. Some courts refused to grant blood-testing results conclusive weight and the legislatures were generally silent on the matter. *See* Berry v. Chaplin, 169 P.2d 442, 450–51 (Cal. Dist. Ct. App. 1946); SCHATKIN, *supra*, at 124–25; Mark Edward Larson, *Blood Test Exclusion Procedures in Paternity Litigation: The Uniform Acts and Beyond*, 13 J. FAM. L. 713, 731–38 (1973–74). Some changes did take place in the 1950s with the American Medical Association's endorsement of a report, which recommended that blood testing procedures should be adopted for medico-legal application and the promulgation of the Uniform Act on Blood Tests to Determine Paternity. These influenced courts and legislatures to grant the tests more conclusive weight. 1 BURR W. JONES, THE LAW OF EVIDENCE CIVIL AND CRIMINAL § 111, at 193–94 (5th ed. 1958); 2 JONES, *supra*, § 457, at 870; Larson, *supra*, at 732. Nevertheless, it was only in the 1970s that commentators estimated that there was a unanimous and universal judicial willingness to admit evidence of blood tests and give it strong if not conclusive evidence. *Id.* at 732.

175. *Secret of AI*, NEWSWEEK, Nov. 15, 1965, at 81. An additional possible explanation to the practice of mixing sperm despite the increasing admissibility and weight given to blood tests may be related to the time lag between the occurrence of legal changes and their penetration into the consciousness of the medical profession. Medical practitioners in their efforts to promote AI may have been unaware of the increasing futility of their actions.

176. Note, *Artificial Insemination: A Parvenu Intrudes on Ancient Law*, 58 YALE L.J. 457, 465 (1949) [hereinafter *A Parvenu Intrudes*]; Alan F. Guttmacher, *The Role of Artificial Insemination in the Treatment of Human Sterility*, 19 BULL. OF THE NEW YORK ACAD. OF MED. 573, 590.

177. *See* Anthony F. LoGatto, *Artificial Insemination: I—Legal Aspects*, 1 CATH. LAW. 172, 181 (1955); Koerner, *supra* note 50, at 494; Seymour & Koerner, *supra* note 83, at 1533; *A Parvenu Intrudes*, *supra* note 176, at 465.

178. *See A Parvenu Intrudes*, *supra* note 176, at 465; Lawrence Banks, *Aspects of Adoption and Artificial Insemination*, *in* PROGRESS IN INFERTILITY 711, 715 (S.J. Behrman & Robert W. Kistner eds., 1968); *Member, Discussion and Question Period*, *in* SYMPOSIUM ON MEDICOLEGAL PROBLEMS 67, 78 (Samuel A. Levinson ed., 1949); *Secret of AI*, *supra* note 175, at 81.

The physicians' goal was also achieved by regulating the procedure in a way which would decrease the likelihood of future legal disputes. By carefully selecting the candidates for the treatment, they tried to reduce the chances of the procedure being the origin of a judicial controversy.[179] Physicians hinged the decision on conclusions regarding the emotional makeup of the couple, the couple's adjustment to each other, the presumable stability of their marriage, the couple's attitude toward children, the particular reasons that have lead the couple to seek help, the intellectual capacity of the couple, and the couple's financial situation.[180] In addition, physicians undertook "semi-legal" functions by advising participants in AID to draw wills in order to avoid the pitfalls of intestacy and by executing consent agreements (including fingerprinted ones) involving the parties to the procedure.[181]

Consequently, it is apparent that the frame of meaning through which many infertility physicians perceived AI technology was distinguished from that used by society in general and by the law in particular. The physicians' frame of meaning was transformed by their consistent exposure to the misery of infertility and to the cure AI could bring to an unhappy marriage. Viewing AI as a cure was also related to their role as society's healers. Infertility physicians now perceived AIH and AID as cures equivalent to other medical treatments. This enabled them to mediate between the legal inertia manifested by the law's reluctance to let go of out-dated modes of control and society's increasing, albeit hesitant, acceptance of the technology and its inevitable effect on the preservation of long-held societal norms.[182]

In general, the socio-legal debate in the 1950s was still characterized by technological visibility. But, although the popular, religious, and legal debates were all similarly characterized by technological visibility, it was the law and not social moral inhibitions or even religious promulgations

179. *Secret of AI*, *supra* note 175, at 81. However, it should be acknowledged that this stringent selection process was consistent with the tradition of medical paternalism still prevalent at that time.

180. SCHELLEN, *supra* note 27, at 167–77; Lamson, *supra* note 163, at 1063; Weisman, *supra* note 127, at 98.

181. Koerner, *supra* note 50, at 494; John H. Schlemer, *Artificial Insemination and the Law*, 52 J. MICH. ST. MED. SOC'Y 418, 419–20 (1953); Seymour & Koerner, *supra* note 83, at 1531–32; *A Parvenu Intrudes*, *supra* note 176.

182. Apparently, although the choice frame of meaning was a powerful tool in achieving social change for women in other contexts, it proved inferior to the cure frame of meaning in the context of this technological debate. This may be explained by the important role played by the physicians. The physicians' ability to mobilize social change hinged on the conceptualization of the issue within their area of expertise, that is, cures for disease.

which served as the main inhibiting force of the acceptance of AI. The law, in its efforts to channel society into nuclear family units, clutched on to out-dated modes of control which were counter-productive in achieving this goal. Nevertheless, AI's popularity kept rising, thanks mainly to the efforts of the medical profession, which perceived the technology through a powerful change-inducing frame of meaning and mediated between the public's desire to use the technology and the inhibitions imposed by the law.

IV. AN ERA OF LEGALIZATION

It was retrospectively concluded that AID finally became popular only in the 1960s.[183] This coincided with a change in the legal position, which was reflected in the trend of legalization that took place primarily from the mid-1960s through the 1970s. At the beginning of the 1960s there was still no comprehensive statistical survey that studied the popularity of AI. One estimate made at the beginning of the 1960s stated that over 10,000 AID children were alive in the United States.[184] Another report stated that 1,000–1,200 babies were born annually as a result of the procedure while there were 50,000 persons in the United States who were conceived through the technology.[185] By 1977, a reliable comprehensive statistical study was done which estimated that 6,000–10,000 AID children were born annually in the United States.[186] Despite the variations in reports there apparently was a significant increase in the use of the procedure during this period.

The application of AI to a larger number of infertility conditions became possible in the 1960s through the opening of sperm banks. Sperm banks facilitated the practice of AID and improved AIH techniques. Moreover, their existence opened the door to new uses,

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183. THE NEW YORK STATE TASK FORCE ON LIFE AND LAW, SURROGATE PARENTING: ANALYSIS AND RECOMMENDATIONS FOR PUBLIC POLICY 19 (1988).

184. Lawrence Banks, *Aspects of Adoption and Artificial Insemination, in* PROGRESS IN INFERTILITY, *supra* note 173, at 711, 714.

185. *1,100 Births a Year Linked to Artificial Conception*, N.Y. TIMES, Dec. 8, 1962, at 5. The report relied on a statement made in The New Physician, the journal of the Student American Medical Association. However, it is unclear whether the statistics reported are related to AI in general or merely to AID.

186. Martin Curie Cohen et al., *Current Practice of Artificial Insemination by Donor in the United States*, 300 NEW ENG. J. MED. 585, 588 (1979). The writers noted that previous estimates were at times as high as 20,000 births per year; however, these estimates lacked reliable data to support them.

enabling men to preserve their sperm in advance. Sperm preservation was used when men knew they would be exposed to radiation in their line of work or through medical treatment or when they were about to undergo surgery which might destroy their reproductive capacity. This was also an option for men with weak sperm who chose to conserve it in case of future deterioration.[187] But, despite the effect of sperm banks on the number of potential users, this was not truly an innovative technological shift. As discussed earlier, the technology had existed since at least 1953, but was not used. It is, thus, evident that despite its contribution to the increase in the number of users, sperm banks were not the main force behind the increase in the popularity of AI.

Two main reasons were offered for the successful diffusion of AID in the 1960s. The first was the passage of laws governing the paternity and legitimacy of children conceived by AID and the second was greater awareness of AID as an option for infertile couples.[188] The second reason was, most likely, at least partly affected by the first. Legalization of the procedure probably made doctors more comfortable about offering it to their patients. Furthermore, the enactment of these statutes increased the publicity of the procedure.[189] But both were clearly influenced by a third factor—an unrelated technological innovation—the pill. The pill was put on the market in 1960. Within only two years, 1.2 million American women were using it.[190] The pill, like no other contraceptive device that preceded it, gave women control over their bodies through the removal of reproduction from sex. This was the peak of the process of the removal of reproduction from sex, which began in the nineteenth-century. Like preceding developments in the birth control revolution, this development, no doubt, affected the parallel revolution of the removal of

187. Smith, *supra* note 121, at 146–47. The growing popularity of sperm banks was linked specifically to the sudden popularity of vasectomies. Sperm banks enabled men undergoing vasectomies to preserve sperm in case of a subsequent change of heart. *See Banking for Tomorrow*, COMMONWEAL, Apr. 28, 1972, at 178.

188. THE NEW YORK STATE TASK FORCE ON LIFE AND LAW, *supra* note 183. The task force mentioned a third reason: lack of a sufficient number of children for adoption. Although this trend probably developed gradually through the 1960s its effects became particularly prominent during the 1970s.

189. *See, e.g.*, *Domestic Relations: The Child of Artificial Insemination*, TIME, April 14, 1967, at 79–80; *Oklahoma Backs Artificial Births*, N.Y. TIMES, May 15, 1967, at 24.

190. *The Birth Control Pill* at http://fubini.swarthmore.edu/~WS30/WS30F1998/akussac3.html#history (last visited Oct. 18, 2002).

sex from reproduction, which was directly related to the socio-acceptance process of AI.[191]

It was in the 1960s that the long awaited legal shift began taking place. The legal awakening of the 1960s was characterized by several well-publicized AID cases, accompanied finally by the enactment of state statutes regulating AI.[192] The first case was *Gursky v. Gursky*,[193] decided in 1963. The two issues before the New York Supreme Court were (1) the legitimacy of the child born through AID with the husband's consent; and (2) support for the child born through AID.[194]

When faced with the traditional concept of illegitimacy, the *Gursky* court was apparently still influenced by the underlying sex and procreation connection. The *Gursky* court refrained from reading into the state statute defining legitimacy[195] a modification to the historical concept that "a child who is begotten through a father who is not the mother's husband is deemed to be illegitimate." The court stated that the fact that the legislature did not choose to modify the concept of illegitimacy, as it did in other cases, leads to the conclusion that the traditional framework must be applied.[196]

While the traditional framework, applied in the discussion of the legitimacy issue, held the *Gursky* court back, the court managed to break away from it when turning to the subject of support by applying contractual legal concepts. The court held that the husband has a duty to support the child under the doctrines of implied contract and promissory estoppel. First, the court held that the husband's declaration, conduct, and written consent to the insemination constituted an implied promise to support the child that, when combined with the wife's concurrence and submission to AI, constituted an implied contract.[197] Alternatively, the court held under the doctrine of promissory estoppel that there was nothing in the record that showed that the wife would have gone through the procedure without her husband's consent. It, therefore, presumed that

191. *See* ROBERT H. BLANK, REGULATING REPRODUCTION 6–11 (1990).

192. For the publicity of the AID cases, see for example, *Artificial Insemination Ruled Nonsupport Bar*, N.Y. TIMES, Sep. 30, 1967, at 21; *Court Here Rules on Test-Tube Baby*, N.Y. TIMES, Aug. 4, 1963, at 52; *Court Ruling Asked on Support Issue*, N.Y. TIMES, Oct. 26, 1962, at 32; *Domestic Relations*, *supra* note 157.

193. 242 N.Y.S.2d 406 (N.Y. Sup. Ct. 1963).

194. *See generally id.*

195. *Id.* at 410 (quoting Domestic Relations Law § 24.)

196. *See id.* at 406–11.

197. *See id.* at 411.

she was induced to act by his consent and that she changed her position to her detriment in reliance upon her husband's express wishes.[198] Thus, once the court escaped the historically limiting framework of family law, with its embedded connection between sex and procreation, it was able to accommodate, at least as for the support issue, the new realities of the technology of AI.

Another significant feature of *Gursky* is its weaker form of technological visibility. The artificial nature of the technology was no longer at issue. Nevertheless, the focus on the intent of the parties concerned the planned nature of the procedure. Although both natural conception and conception by AI may be planned, the Court focused here on the specific type of long-term planning which accompanies the AID procedure.

In 1964, after years of tension between the nature of the family as embedded in the technology of AI and the traditional concepts of family law, the first legislative action was taken to harmonize law with the contemporary frame of meaning held by most infertility practitioners and the majority of the public.[199]

The reason for legislative inaction to this point is unclear. Several possibilities were raised around this period: (1) the belief that the evidentiary presumptions would solve the problem; (2) lack of public awareness that the problem existed; (3) religious taboos; and (4) predictions of the dire social consequences of AID.[200] The reasons which finally caused the different legislative bodies to act most likely included: (1) the increasing popularity of the practice; (2) the sexual revolution of the 1960s; and (3) the persistent uncertainty induced through contradictory legal opinions, which the evidentiary presumption obviously delayed but did not altogether prevent.

198. *See id.* at 411–12. This decision was followed by another New York Supreme Court case where the court on similar facts concluded that the husband was liable for support since there was an implied contract between the parties. The legal debate in this case was also characterized by a weaker form of technological visibility. *See generally* Anonymous v. Anonymous, 246 N.Y.S.2d 835 (N.Y. Sup. Ct. 1964).

199. It is important to note here that despite contradictory court opinions, no legislative body declared AID illegitimate. And although at least two bills to that effect were introduced in Minnesota in 1949 and in Ohio in 1955, neither became law. Note, *A Legislative Approach to Artificial Insemination*, 53 CORNELL L.Q. 497, 498–99 (1968) [hereinafter *A Legislative Approach*].

200. *Id.* at 511.

The first statute to legitimize AI was enacted in Georgia.[201] The statute provided for a conclusive presumption of legitimacy of a child born through AID when performed with the written consent of both husband and wife. It also regulated AI by permitting only licensed physicians to perform the procedure and made it a felony for anyone else, presumably the inseminee, to do so.[202]

In 1967, Oklahoma enacted the second state statute to regulate AI. This statute affirmatively permitted the practice of AID by a licensed physician when so requested by a husband and wife, both of whom had to consent in writing.[203] The statute banned the use of AID under any other circumstances, but no penalty was prescribed. In addition, it prescribed that the consent for AID must be executed and acknowledged by the husband, wife, AID practitioner, and a judge having jurisdiction over the adoption of children. An original of the consent was to be filed with the court, which must maintain confidentiality. Any child born as a result would be considered legitimate.[204] A third statute, similarly, requiring written consent by the couple to be filed in court and thereby legitimizing the born child was adopted by Kansas in 1968.[205]

The parallel shift to direct modification of family law concepts reached the courts in 1968.[206] The famous California case of *People v. Sorensen*[207] was decided on facts similar to those of the *Gursky* case.[208] The court reached the same result, however, without resorting to contract law but by dealing directly with both the procedural impediment of the evidentiary presumption of legitimacy and the traditional family law concepts of fatherhood, adultery, and illegitimacy. The court proceeded to find the child legitimate and the husband to be the father with an obligation to support the child.[209]

As for the evidentiary presumption of legitimacy, the *Sorenson* court admitted that the case could be disposed of on the ground that the

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201 GA. CODE ANN. § 74-9904 (Supp. 1968).

202. *See* Walter Wadlington, *Artificial Insemination: The Dangers of a Poorly Kept Secret*, 64 NW. U. L. REV. 777, 794 (1969–1970).

203. *Id.* at 794; *A Legislative Approach, supra* note 199, at 498.

204. Wadlington, *supra* note 202, at 794–95; *A Legislative Approach, supra* note 199, at 498.

205. Wadlington, *supra* note 202, at 796.

206. Direct modification of family law concepts is distinguished in this Article from the artificial by-pass with concepts such as "semi-adoption" which was used by the *Strnad* court.

207. 437 P.2d 495 (Cal. 1968).

208. *See supra* note 198 and accompanying text.

209. *See Sorensen*, 437 P.2d 495.

husband failed to overcome the presumption that "[a] child of a woman who is or has been married, born during the marriage or within 300 days after the dissolution thereof, is presumed to be the legitimate child of that marriage."[210] However, without much of an explanation, the *Sorenson* court chose to proceed into the facts of the case and determine whether a husband, who consented to the artificial insemination of his wife with the semen of a third-party donor, was guilty of the crime of failing to support the child conceived through such insemination.[211] The court's move might be explained by the fact that the legitimacy presumption was relaxed with time in several jurisdictions. However, since the relaxation of the presumption took place gradually through several centuries this move was more likely motivated by an urgency to resolve the matter on its face.[212]

The court then proceeded to examine the issue through family law concepts. It first examined the concept of a "father" which was not examined by the courts in past AI cases. The court concluded that the term "father" in § 270 could not be limited to the biologic or natural father, as those terms are generally understood. The court held that the determinative factor was whether the legal relationship of father and child exists. This is because a child born through AID does not have a "natural father" as the term is usually used. Because there is no natural father, the court reasoned, one can only look for the legal one.[213] The court used the husband's consent to conclude that the word "father" includes a husband who, unable to accomplish his objective of creating a

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210. *Id.* at 497 (quoting CAL. EVID. CODE § 661 (West)).

211. *Id.* at 497–98. § 270 of the California Penal Code provided that a father, of either a legitimate or illegitimate child, who willfully omits to provide support for his child is guilty of a misdemeanor.

212. The doctrine developed in stages. At the outset the legitimacy presumption was one of the strongest presumptions in existence and was viewed as conclusive. There was no disputing the presumption unless the husband was absent "beyond the four seas" of England or was impotent. But after gradual relaxation through five centuries the conclusive feature was almost entirely removed in England. SCHATKIN, *supra* note 174, at 445–46 (3d ed. 1956); 41 AM. JUR. 2D, *supra* note 24, § 10; 9 JOHN HENRY WIGMORE, A TREATISE ON THE ANGLO-AMERICAN SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW, § 2526, at 527–28 (3d ed. 1940). By the 1960s the presumption could be overcome in some United States jurisdictions by showing that (1) the husband was impotent; (2) the husband was present at the time of conception but under such circumstances that offer clear proof that no intercourse could have taken place between him and his wife; (3) the child in question was of a different race or color from the husband; (4) the blood groups of the parents and the child were such that the husband could not have been the father of the child; or that (5) the husband could not have been present at the time conception has taken place. Verkauf, *supra* note 126, at 303.

213. *Sorensen*, 437 P.2d at 497.

child by using his own semen, purchases semen from a donor and uses it to inseminate his wife.[214]

The analysis of the concept of "fatherhood" demonstrates several important features of the evolving legal debate. First, a weaker form of technological visibility again characterizes the analysis. This weaker form of technological visibility does not deal with the artificiality of the technology as contrasted with natural conception but does indirectly take into account certain characteristics of the technology, such as the payment for the sperm of another man. Secondly, the concept of consent was injected into family law doctrine and altered its traditional framework instead of merely justifying the result through use of contract law. Third, the analysis manifested a relatively direct acceptance of procreation without resort to sexual intercourse within the nuclear family. A direct acknowledgement of a non-genetic, technologically constructed family relationship was made in lieu of a mere rejection of the traditional modes of control. However, it must also be noted that the judgment still lacked an express discussion of the social ramifications of AI.

The *Sorenson* court did, in addition, comment on the issues of illegitimacy and adultery. This analysis was still characterized by strong technological visibility, manifested in the comparison between sexual relations to the procedure of AI. The court concluded that the public policy of the state favors legitimization and that, in the absence of legislation prohibiting AI, the offspring is not the product of an adulterous relationship.[215]

Thus, by the end of the 1960s, a shift occurred in both the discourse and the substance of the legal debate surrounding AI. The shift in the discourse was evidenced by the decrease in the level of technological visibility. Although the debate was still generally characterized by technological visibility the focus was no longer on the technology itself but on its ancillary features. The substantive shift was evidenced by a certain acceptance, both direct and indirect, of the family concept embedded in the technology. This shift was manifested through the embrace, to a certain extent, of the notion of procreation without sexual intercourse within the nuclear family unit and its consequent alternative family forms. The relatively direct acceptance was demonstrated through the legislative modification of traditional family law terminology. The

214. *Id.* at 498.

215. *Id.* at 501.

indirect acceptance was manifested through the abandonment of the controlling tie between sex and procreation and the use of contractual legal concepts to legitimize AI.

The trend of legalization and its consequent direct modification of family law concepts to accommodate the technology of AI continued through the 1970s. A major stabilizing force was the adoption in 1973 of the Uniform Parentage Act (UPA).[216] The goal of the UPA was to guarantee substantive legal equality for all children regardless of the marital status of their parents.[217] Section five of the UPA specifically regulated AI. The UPA provided that AID with the husband's consent is legal and further that the donor is not perceived to be the natural father.[218]

By the end of the 1970s at least fifteen states had statutes regulating AI and specifically mentioning AID.[219] All provided that the resulting child was the natural child of the recipient's husband if the husband consented to the procedure. Five states required that the consent be filed with a state agency and six states, either directly or by implication, limited the practice of AID to physicians.[220] By 1981, this number had grown to twenty-three states,[221] and by 1985 twenty-eight states had AI statutes.[222] Nine of the statutes were modeled after the UPA.[223] Although there were certain variations among the states, most importantly, all the statutes made clear that the offspring of the donor sperm will be treated as the legal offspring of the consenting husband for legitimacy, inheritance, and support purposes.[224] This acceptance of the wife's

216. Unif. Parentage Act, 9B U.L.A. 377 (2001).

217. Carol A. Donovan, *The Uniform Parentage Act and Nonmarital Motherhood-by-Choice*, 11 N.Y.U. REV. L. & SOC. CHANGE 193, 208 (1982–1983).

218. *See* Unif. Parentage Act § 5, 9B U.L.A. 407.

219. The following states adopted AI statutes: Alaska, Arkansas, California, Florida, Georgia, Kansas, Louisiana, Maryland, New York, North Carolina, Oklahoma, Oregon, Texas, Virginia and Washington. *See* George J. Annas, *Fathers Anonymous: Beyond the Best Interests of the Sperm Donor*, 14 FAM. L.Q. 1, 2 n.2 (1980).

220. *See id.* at 2–3, n.2.

221. The additional states were: Colorado, Connecticut, Michigan, Montana, Nevada, Tennessee, Wisconsin and Wyoming. *See* Barbara Kritchevsky, *The Unmarried Woman's Right to Artificial Insemination: A Call for an Expanded Definition of Family*, 4 HARV. WOMEN'S L.J. 1, 10–11 (1981).

222. The additional states were: Alabama, Idaho, Illinois, New Jersey and Vermont. *See* Judith Lynn Bick Rice, *The Need for Statutes Regulating Artificial Insemination by Donors*, 46 OHIO ST. L.J. 1055, 1062 (1985).

223. *Id.*

224. BLANK, *supra* note 191, at 116–17b; UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, INFERTILITY: MEDICAL & SOCIAL CHOICES, OTA-BA-358, at 244 (1988).

husband as the legal father in effect, cut off the rights and duties of the donor.

Not all states took part in the legislation process. Nevertheless, once the legalization process commenced, case law was generally uniform in holding that the AID child is legitimate and that the husband has the rights and duties of a father.[225] Furthermore, despite the fact that AI statutes were not adopted in all states, the legal acceptance of the consequences of the basic AI procedure was emphasized by the appearance in the 1990s of a new type of argument. Men who unintentionally impregnated women outside the scope of marriage through sexual intercourse began arguing that this was "artificial insemination by intercourse," and like sperm donors, they had no duties toward the child.[226] Although courts would not accept this argument, the fact that such an argument was raised at all points to the naturalness with which the status of the AI child was now perceived.[227]

It should be noted, however, that where impregnation through sexual intercourse was purposeful, that is, the purpose of the intercourse was to provide a single woman with a child, courts have reached the same result. Courts repeatedly rejected the argument that like the sperm donor, these men had no duties toward the child, thus, refusing to equate the situation with that of a donor through AI.[228] The refusal to accept the artificial insemination by intercourse argument in these cases points to

225. The following cases were decided in the absence of AI legislation: Levin v. Levin, 645 N.E.2d 601 (Ind. 1994); K.S. v. G.S., 440 A.2d 64 (N.J. Super. Ct. 1981); *In re* Baby Doe, 353 S.E.2d 877 (S.C. 1987). The following cases were similarly decided in states where AI legislation was enacted: R.S. v. R.S., 670 P.2d 923 (Kan. Ct. App. 1983); Lane v. Lane, 1996-NMCA-23, 912 P.2d 290 (N.M. Ct. App. 1996); State *ex rel.* H. v. P., 457 N.Y.S.2d 488 (App. Div. 1982); Jackson v. Jackson, 739 N.E.2d 1203 (Ohio Ct. App. 2000); K.B. v. N.B., 811 S.W.2d 634 (Tex. App. 1991); S.C. v. R.C., 476 N.W.2d 25 (Wis. Ct. App. 1991). *But see* Schoenfeld v. Apfel, Comm'r of Soc. Sec., 237 F.3d 788 (7th Cir. 2001) (holding that children were not the husband's where they were openly stated to be those of the donor, and the issue only came up after the husband's death when the mother applied for the children's social security benefits); *In re* Marriage of Witbeck-Wildhagen, 667 N.E.2d 122 (Ill. App. Ct. 1996) (holding written consent requirement to be prerequisite to establishment of parent-child relationship, but deciding husband's obvious lack of consent manifested by his use of condoms during intercourse prevented his fathering of a child).

226. *See, e.g.*, Straub v. B.M.T., 645 N.E.2d 597, 600 (Ind. 1994); Piatt v. Schultz, No. 03-97-0014-CV, 1998 Tex. App. LEXIS 5024, *8 (Tex. App. Aug. 13, 1998).

227. *See, e.g.*, *Straub*, 645 N.E.2d at 601.

228. *See, e.g.*, Dews v. Dews, 632 A.2d 1160, 1169 (D.C. 1993); *In re* Marriage of Adams, 701 N.E.2d 1131, 1133 (Ill. App. Ct. 1998); Estes v. Albers, 504 N.W.2d 607, 609 (S.D. 1993); Kesler v. Weniger, 744 A.2d 794, 796 (Pa. Sup. Ct. 2000).

the limits of AI's acceptance—AI has not to this day achieved equal standing with sexual intercourse.

Legalization, as noted, was accompanied with a significant increase in the popularity of AI. Therefore, it is relevant to inquire into the effect of legalization on the practices employed by the medical profession. The examination of this relationship can shed additional light on the impact of legalization on the practice of AI in general.

A comprehensive study performed in 1977 among those physicians most likely to perform AI revealed that even among this select group nineteen percent did not perform AID and those who did perform it did so on a relatively small scale.[229] These results are somewhat surprising, although they may be related to the resources necessary to maintain an AID practice and not the reluctance to perform AID.

An examination of physicians' practices related to AID disclosed a mixed picture, demonstrating only a partial disappearance of the practices conjured to combat legal uncertainty. The practice of mixing donor semen with the husband's sperm nearly disappeared.[230] Apparently some physicians still advocated the practice for the psychological benefit of the husband, however, others perceived it to be psychologically unsound arguing that the decision to have an AID child should be a mature one.[231] The practical abandonment of the practice points to an increased sense of legal certainty among physicians with regard to the acceptance of AI. Legal certainty with regard to the legitimacy of the child eliminated the need to hide the child's origin as an AID child. Although it must be acknowledged that the renunciation of the sperm mixing practice apparently resulted from the elimination of both the psychological and legal motivations.

Yet, at the same time, it was revealed that some of the traditional measures of confidentiality employed by doctors were still in use. For example, some of the physicians surveyed suggested that their patients conceal the use of AID from their obstetricians, in order to enable the obstetrician to register the husband's name on the birth certificate in

229. *See* Curie Cohen et al., *supra* note 186, at 588.

230. *See id.* at 587.

231. *See* ELIZABETH NOBLE, *supra* note 133, at 92; Barbara Eck Menning, *Donor Insemination: The Psychosocial Issues*, 18 CONTEMP. OBSTETRICS & GYNECOLOGY 155, 162 (1981); Sergio C. Stone, *Complications and Pitfalls of Artificial Insemination*, 23(4) CLINICAL OBSTETRICS & GYNECOLOGY 667, 680 (1980).

good faith.[232] It was also found that many of the physicians still refrained from keeping permanent records regarding children born through AI. This tendency was pronounced when the identity of the donor was at issue. Physicians were primarily concerned with the anonymity of the donor. A new technique evolved, involving the use of multiple donor sperm within different inseminations in the same cycle. This method also helped preserve the donor's anonymity.[233] These findings shed some doubt regarding the impact of legalization on the practice of AI. However, several possible explanations may clarify the situation.

The first explanation relates to the justification given by many physicians that maintaining paternity records is problematic in light of recent court orders to open records of adoption agencies.[234] If this were the case the stability achieved by the legalization of AI may have been compromised at least in part by a parallel legal change.

Second, despite a certain trend toward letting an AID child know his origin, physicians continued to advise couples to keep this fact secret for the psychological benefit of the child.[235] In that case, lingering legal uncertainty may not have been the cause but the remains of condemning social norms.

Third, it may be that old habits were hard to lose and the medical profession, accustomed to the aura of secrecy, took longer to adjust to the new socio-legal reality. An article published in 1976 in the important American Fertility Society journal—*Fertility and Sterility*—supports this. Although the writer concluded that due to the courts' decisions the legal status of an AID child was not very vulnerable, he mistakenly stated that only three states so far provided that AID was legal and that the children conceived through AID were legitimate.[236] Similar sentiments pronouncing the remaining legal uncertainty continued to appear in professional journals.[237] Although, as discussed above, the case

232. Curie Cohen et al., *supra* note 186, at 589.

233. *Id.* at 588–89.

234. *Id.* at 589.

235. Eck Menning, *supra* note 231, at 163. This practice, in fact, persists to this day. *See* S.R. Leiblum & A.L. Aviv, *Disclosure Issues and Decisions of Couples Who Conceived via Donor Insemination*, 18 J. PSYCHOSOMATIC OBSTETRICS & GYNECOLOGY 292 (1997).

236. William W. Beck, *A Critical Look at the Legal, Ethical and Technical Aspects of Artificial Insemination*, *in* 27(1) FERTILITY & STERILITY 1, 2–3 (1976).

237. *See, e.g.*, Richard D. Amelar & Lawrence Dubin, *Artificial Donor Insemination (AID)*, *in* MALE INFERTILITY 237, 243–44 (Richard D. Amelar, et al. eds., 1977); Eck Menning, *supra* note 231, at 158. *But see* WILFRED J. FINEGOLD, ARTIFICIAL INSEMINATION WITH HUSBAND SPERM 20

law in states where no AI statutes were enacted did not divert from the judicial decisions in states where such legislation did come into force, the geographical partiality of the legalization may still have created an aura of uncertainty.

Apparently, the influences of legalization took effect gradually. Nevertheless, a comprehensive study done by the Office of Technology Assessment in 1987 revealed further changes in the practice of AI. AI overall was perceived as a common practice. Approximately 172,000 women underwent AI in that year in the United States.[238] The study revealed that the use of AIH had expanded due to the popularity of sperm banks. The list of reasons for storing semen expanded to include sperm storing (1) due to an unspecified fear of future infertility; (2) geographic separation from spouse; (3) as a back-up for in vitro fertilization or gamete intrafallopian transfer; and (4) due to a desire to have children after death.[239]

The study revealed that thirty-eight percent of the physicians treating infertility problems would provide AIH while twenty-four percent would provide AID.[240] At first blush, these results seem quite unexpected. However, upon further review, the survey's data reveals that of those physicians not offering AI, nearly half explained the procedure was not part of their practice.[241] Only ten percent cited fear of litigation or liability (distinguished from fears as to the illegality of the procedure) as a reason for not offering AI or AID services and merely five percent cited personal or ethical objections.[242]

At the same time the study revealed the remnants of past paternalistic practices, in particular with regard to AID. It appeared that about half of the physicians who provided AI utilized a personality assessment as part of their determination of whether the patient should go through the procedure (other factors were mainly medical ones).[243] As discussed above, in the 1940s–1950s doctors heavily scrutinized their patients and

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(1980) (stating that new statutes and court rulings removed some of the legal complications previously surrounding AID).

238. UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, ARTIFICIAL INSEMINATION: PRACTICE IN THE UNITED STATES: SUMMARY OF A 1987 SURVEY: BACKGROUND PAPER, at 15 (1988).

239. *See id.* at 63.

240. *See id.* at 15.

241. *Id.*

242. *See id.* In addition, three percent cited lack of donors while three percent cited lack of facilities as preventing the practice.

243. *Id.* at 24.

carefully selected those who may go through the procedure.[244] This was partly a result of the paternalistic attitude of the medical profession and partly an effort by physicians to combat legal uncertainty by selecting patients whose family life was less likely to erupt and lead to litigation. The use of a personality assessments in the 1980's was a surprising remnant of this practice. The question, therefore, becomes whether legal uncertainty persisted into the late 1980s or whether such scrutiny was never the result of legal implications but an inherent part of what physicians viewed to be responsible medical practice.

Further study into the data of this practice demonstrates two things. First, the personality assessment utilized in the 1980s was different from that used in the 1950s in that a major part of it was focused on standardized psychological assessment and other evaluations used to diagnose mental illness or to address general concerns of fitness for pregnancy or motherhood.[245] Furthermore, only five percent of the physicians indicated that they rejected a patient because they perceived the marriage to be unstable, one percent indicated that they did so because the couple was not ready, and two percent because the husband did not agree.[246] Thus, it seems that the focus was no longer on the stability of the marriage of the applying couple. Second, the data overwhelmingly demonstrated that young physicians were far less likely (only twenty-nine percent) than older physicians (sixty percent) to require personality assessment tests.[247] Therefore, as discussed with regard to the physicians' practices in the 1970s, it is apparent that old habits tended to linger. Older physicians continued to apply practices prevalent earlier in their careers.

It must be acknowledged that the personality assessment requirement reflected some lingering uneasiness as to the social implications of the procedure, especially since it was performed more in cases of AID (fifty-four to fifty-nine percent) and not of AIH (thirty-eight percent).[248] But again, the data demonstrated that these attitudes changed among younger physicians and among women physicians, only thirty-nine percent of whom (as opposed to fifty-three percent overall) required these tests.[249] It

244. *See supra* notes 179–180 and accompanying text.

245. UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 238, at 25.

246. *Id.* at 27.

247. *Id.* at 25.

248. *Id.*

249. *Id.*

should also be noted that the shift in the use of psychological evaluations was apparently unrelated to a new consensus in that matter. The debate was still open with regard to the need of such an evaluation.[250]

The 1987 survey also evidenced a change with regard to the maintenance of records. Fifty-four percent of those who regularly practiced AI kept records permitting them to match donors to the pregnancies resulting from use of the donor's sperm.[251] Data from the survey shows that maintenance of records was correlated with whether AID or just AIH was practiced and with the size of the practice. Most physicians, however, refused access to most parties and half of them even refused judicial requests.[252] Record keeping was even more prevalent in sperm banks where eleven out of fifteen sperm banks kept detailed records.[253] In the past, despite the obvious medical benefits of providing the AID child with a family medical history, physicians were wary of maintaining these records due to their fear of future legal complications. This shift, albeit gradual, manifested the long-term effects of legalization.

Thus, legalization was accompanied by a shift in both the legal discourse and the social acceptance of the technology, and its alternative concept of the family. In the legal debate, one could observe a gradual change in the legal discourse toward a weaker form of technological visibility. This was accompanied by direct and indirect substantive shifts in legal analysis. Legal reasoning achieved the shift directly by modifying family law concepts. At the same time, it accomplished the shift indirectly by invoking contract doctrine and by weakening the sex and procreation tie. On the social front, the relationship between the vast popularity of AI and legalization could also be seen through the gradual, although incomplete, abandonment of medical practices designed to mediate between legal uncertainty and social use.

Hence, one could observe a shift in the socio-legal position toward a certain acceptance of the AI technology and the alternative concept of the family embedded within it. However, as will be discussed, this

250. *See, e.g.*, Sander S. Shapiro, *Some Unresolved Questions About Artificial Insemination*, 17 CONTEMP. OBSTETRICS & GYNECOLOGY 129, 134–35 (Jan. 1981); Herbert Waltzer, *Psychological and Legal Aspects of Artificial Insemination (A.I.D.): An Overview*, 36(1) AM. J. PSYCHOTHERAPY 91, 98–99 (1982).

251. UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 238, at 46.

252. *Id.* at 46–47.

253. *Id.* at 70.

acceptance was only of a superficial nature. Any illusion of complete acceptance was shattered with the evolution of new applications for AI in the 1970s.

V. ROCKING THE BOAT: UNMARRIED WOMEN AND SURROGACY

At the same time that the practice of AI and especially AID finally gained social and legal legitimacy, the boat was rocked again. The source of controversy was the evolution of two new uses for the technology. One application was traditional surrogate motherhood. This involved artificial insemination of a woman who was not the woman planning to raise the child. The other application involved the use of AI by single women and lesbians. Thus, the technology of AI found itself again in the midst of a social and legal controversy perhaps even larger than any before due to the sensationalization of the new applications in the mass media.

The emergence of these new social uses took place in the mid-1970s. At that time, the diffusion of AIH and AID increased significantly. This was demonstrated for one in the great growth in the number of semen banks.[254] Moreover, an unrelated techno-social phenomenon increased the resort to AID. This was the fact that by the 1970s, adoption was no longer an option for most people as the number of babies available for adoption fell dramatically.[255] The availability of contraception and liberalized abortion options in the years following *Roe v. Wade* made AI the only alternative for many couples who wanted to have children.[256] Furthermore, it is possible that fewer children were placed for adoption due to a decrease in the stigma of birth out of wedlock. The statistics were overwhelming. While in 1968 almost eighty percent of out-of-wedlock children were placed for adoption, the figure was only four percent by 1983.[257] Thus, it was in this relatively hospitable climate to AI that new uses for the technology emerged. These uses underscored the

254. Mark S. Frankel, *Human-Semen Banking: Social and Public Policy Issues*, 1 MAN & MED. 289, 289 (1976).

255. Jacqueline Hornor Plumez, *Adoption: Where Have All the Babies Gone?* N.Y. TIMES (Magazine), Apr. 13, 1980, § 6, at 34.

256. Beck, *supra* note 236, at 1.

257. THE NEW YORK STATE TASK FORCE ON LIFE AND LAW, *supra* note 183, at 14 n.1.

fragility and incompleteness of the newly achieved socio-legal acceptance of the technology of AI.

A. Artificial Insemination as the Resort for Unmarried Women

As AI became more popular, commentators began to speculate with regard to the possibility of use by unmarried women. Advocates of AI in past decades could not fathom the idea and viewed the application of AI to spinsters, widows, or divorcees to be an abuse of the procedure.[258] This was not really an issue during preceding decades because neither society nor its unmarried women constituency were ready to endorse such use.

This changed in the 1970s. The AID survey conducted in 1977 demonstrated, to the manifest surprise of its authors, that the third most cited reason for AID after the husband's infertility and avoiding the transmission of a genetic disease, was to provide natural children to women without a male partner.[259] About ten percent of the physicians surveyed performed AID on women without a male partners.[260] Reports at the beginning of the 1980s estimated that approximately 1500 single women conceived through AI per year, one hundred fifty of them lesbians.[261] This trend was accompanied by the circulation of self-help guides for AI.[262]

By 1987 the number of women without male partners seeking AID had further increased. Three percent of the women seeking AI were identified as single women and an additional one percent identified themselves as lesbians. This translated to approximately 4000 requests from single women and 1000 requests from lesbians during that year.[263]

As the resort to AID by unmarried women (both heterosexual and lesbian) became a trend, many physicians reacted by refusing to

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258. SCHELLEN, *supra* note 27, at 208.

259. Curie Cohen et al., *supra* note 186, at 585.

260. *Id.*

261. Ann Taylor Flemming, *New Frontiers in Conception*, N.Y. TIMES (Magazine), July 20, 1980, § 6, at 14.

262. *Id.*

263. UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 238, at 23. One must note, however, that the former data was of women who conceived through AI, while this data was of those who requested the procedure. Since some were rejected and for some the procedure was unsuccessful the difference between the number of single women and lesbians who actually conceived in that year would be lower.

artificially inseminate such women.[264] Moreover, institutions such as sperm banks and fertility clinics often refused to accommodate single women and lesbians.[265] This was the case even when it was not the purchase of sperm that was at issue but merely use of the facilities or of a fertility drug.[266] This reluctance was of extreme significance, considering the vital role the physicians played in the past in mediating between the use of AI technology and legal inhibitions.

The primary reason cited by physicians for their refusal to treat unmarried women was uncertainty regarding the legality of the procedure.[267] Some physicians stated the belief that children should not be born outside the traditional family.[268] Reluctance was also related to the perceived inability of unmarried women to adequately provide for the child.[269]

Data collected in 1987 demonstrated that the controversy had not subsided. The medical profession still inhibited the insemination of single women and lesbians. The most common non-medical reason for the rejection of a woman seeking AI was her being unmarried. Fifty-two percent of the practitioners reported rejecting a patient on this basis.[270] Fifteen percent of the physicians reported rejecting a patient because she was a lesbian.[271] Moreover, when asked directly, physicians were equally divided as to whether or not they were likely to reject an unmarried recipient.[272] If the unmarried recipient did not have a partner, the proportion of physicians who were likely to reject her rose to sixty-one percent.[273] If the patient was a lesbian, the number increased to sixty-three percent.[274] Some change in attitudes can be discerned from the fact

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264. Michele M. Melendez, *A Right to Bear Children*, PLAIN DEALER, Aug. 4, 1998, at 1F. Absent an established patient/physician relationship, physicians are under no duty to treat a patient. *See generally* Hurley v. Eddingfield, 59 N.E. 1058 (Ind. 1901).

265. *See* C.M. v. C.C., 377 A.2d 821, 821 (N.J. Juv. & Dom. Rel. Ct. 1977); Melendez, *supra* note 264, at 1F.

266. *See C.M.*, 377 A.2d at 821; Melendez, *supra* note 264, at 1F.

267. Kritchevsky, *supra* note 221, at 17–18.

268. Maureen McGuire & Nancy J. Alexander, *Artificial Insemination of Single Women*, 43(2) FERTILITY & STERILITY 182, at 182 (1985)

269. Kritchevsky, *supra* note 221, at 17.

270. UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 238, at 27.

271. *Id.* The lower percentage for rejection of lesbians than that of single women was the result of the fact that there were fewer such applicants in the first place.

272. *Id.* at 29.

273. *Id.*

274. *Id.*

that physicians over the age of fifty were more likely to reject an applicant for non-medical grounds.[275] However, the figures were still staggering.

The reluctance of the medical profession to advocate the new AI practice was reflected in the 1994 report of the Ethics Committee of the American Fertility Society on assisted reproductive technology. In its discussion regarding the moral right to reproduce, the Committee stated the following:

> We believe that the child's best interest is served when it is born and reared in the environment of a heterosexual couple in a stable marriage. Therefore, we find it, in general, ethically questionable to offer infertility services to single individuals who do not provide this most appropriate environment. We realize that the practice is too recent to have generated serious studies. Our reservations stem from the overall desirability of a stable marriage for the child's welfare.[276]

The unwillingness of many physicians to artificially inseminate unmarried women reflected the general societal controversy surrounding the issue. The popular press also conveyed mixed feelings with regard to the practice.[277]

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275. *Id.* at 30. It is important to note, however, that where sperm banks were at issue, the study did not indicate marital status or sexual orientation to be a basis for rejection of a recipient. This indicated a change from former practice. Nevertheless, those practicing in sperm banks did share the views of their colleagues.

276. *See* The Ethics Committee of the American Fertility Society, *Ethical Considerations of Assisted Reproductive Technologies*, 62(5) FERTILITY & STERILITY i, 19s (Supp. 1 1994). But, at the same time, the AID guidelines drafted by the Practice Committee of the American Fertility Society enumerated the single female status as one of the conditions that warrant AID. The Practice Committee of the American Fertility Society, *Guidelines for Therapeutic Donor Insemination: Sperm*, 62(5) FERTILITY & STERILITY i, 101S (Supp. 1 1994). This condition was a new addition, which did not appear in the list of conditions enumerated in the Committee's 1986 and 1990 guidelines. Although the reports did include a single recipient consent form it was distinguished from the married woman consent form in that the single woman's form contained a statement that she shall not seek support for her child from those involved in the procedure. *Compare* Practice Committee of the American Fertility Society, *New Guidelines for the Use of Semen Donor Insemination: 1986*, 46(4) FERTILITY & STERILITY 95s, 95s–96s, 109s (Supp. 2 1986); *Cf.* Practice Committee of the American Fertility Society, *New Guidelines for the Use of Semen Donor Insemination: 1990*, 53(3) FERTILITY & STERILITY 1s, 1s, 13s (Supp. 1 1990).

277. *See, e.g.*, Georgia Dullea, *Artificial Insemination of Single Women Poses Difficult Questions*, N.Y. TIMES, Mar. 9, 1979, at A18; James Lileks, *When Did Insemination Become a Guaranteed Right?*, DENVER ROCKY MOUNTAIN NEWS, Apr. 19, 1995, at 37A; Diane K. Shah et al., *Lesbian Mothers*, NEWSWEEK, Feb. 12, 1979, at 61.

The medical profession, thus, unlike its role in the 1950s, did not advocate the acceptance of the new use of AI. Even assuming that the physicians' views merely mirrored those of the community at large, their espousal of such views was of enhanced significance because of their role as the gatekeepers of the practice of AI and their consequent ability to implement these views to inhibit or greatly promote the use of the technology. In the 1940s and1950s physicians advocated AI as a cure for infertility. In their role as the healers of society it was only natural that physicians would lead such a move. However, the resort of single women, whether heterosexual or lesbians, to AI was viewed by many in the public as a matter of choice and not as a cure for infertility. Such sentiments were expressed by one commentator as follows: "[A]rtificial insemination is as medically necessary as getting a tattoo . . . . [i]f a doctor does not want to inseminate a lesbian couple for whatever reason, the doctor must remain free to do so."[278] Thus, it may not be surprising that the community of physicians no longer led the way in promoting the use of AI. In light of the mixed societal reaction, espousal of such views could incur the risk of adverse publicity. Moreover, physicians were apparently particularly cautious because without the perception that this use of AI was a "cure," it would be harder for them to justify advocacy of AI on the basis of their expertise. The influence of this attitude eventually affected the extent of the use of the procedure by unmarried women and led to some novel encounters between the use of the technology and the law. The new encounters between the law and the technology of AI resulted from both the incomplete resolution achieved through the legalization era of the 1960s and 1970s and the unwillingness of many physicians to provide the procedure to unmarried women.

The legal status of AID children born to unmarried women, whether heterosexual or lesbian, was indeed unclear. As was the case with the basic application of AI, a practical legal vacuum greeted the new use. Neither AI legislation nor any court holding explicitly prohibited AI in unmarried women.[279] The wordings of the statutes left room for

278. Lileks, *supra* note 277.

279. In 1981 no AI statute, except Oregon's, explicitly mentioned unmarried women. Oregon's statute required the woman's consent and, if she was married, the husband's as well. In addition, it was arguable that the statutes of California, Colorado, Washington and Wyoming recognized a right to AI for unmarried women. These statutes, while otherwise adopting the Uniform Parentage Act, omitted the word "married" from the provision stating that the donor will not be treated as the natural father. *See* Kritchevsky, *supra* note 221, at 18.

interpretation. Six states enacted AI statutes providing that the donor is not the legal father. Arguably, in such jurisdictions the mother was the sole legal parent.[280] On the other hand, AI statutes in at least three states explicitly required the consent of a woman and her husband.[281] This requirement could be interpreted to mean that AI could not be performed without the consent of a husband, even in the case where no such husband existed.

Despite the fact that the statutes did not expressly prohibit use of the technology by unmarried women, many courts chose to interpret them to differentiate between the rights of married and unmarried women.[282] The fact that given the option many courts denied the protection of the AI legislation to unmarried women points to the incomplete acceptance of AI. Many of the judicial controversies, which required the application of an AI statute, originated in the reluctance of the medical professionals to enable unmarried women to use the technology. This rejection often led unmarried women to (1) locate a sperm donor by themselves; or (2) proceed to self inseminate themselves without medical assistance.

The first type of legal case was a direct result of the physicians' unwillingness to enable unmarried women to undertake the procedure. Such discriminatory practices included refusal to perform the procedure, provide the sperm, or even provide fertility drugs.[283] Albeit quite rare, these cases involved suits alleging discrimination. In one unreported federal district court case, *Beatty v. Erhard*,[284] a lesbian couple was rejected by a Minneapolis clinic because the clinic and its physician were reluctant to perform AID on a lesbian. The couple sued for discrimination in a public accommodation under the Minnesota Human Rights Act. The district court hinged its decision on the Minnesota Parentage Act. It noted, that Minnesota could have amended its Parentage Act, as was done by other states, by omitting the word

280. Donovan, *supra* note 217, at 220.

281. *Id.* at 218–19.

282. *See generally In re* R.C., 775 P.2d 27 (Colo. 1989); Jhordan C. v. Mary K., 224 Cal. Rptr. 530 (Ct. App. 1986); Thomas S. v. Robin Y., 618 N.Y.S.2d 356 (App. Div. 1994), *reconsideration granted*, 650 N.E.2d 1328 (N.Y. 1995), *appeal dismissed without opinion*, 655 N.E.2d 708 (N.Y. 1995).

283. *See* Beezy Marsh, *Is a Lesbian Couple the Same as Any Other?* N. ECHO, Apr. 16, 1997, at 12; Melendez, *supra* note 264; Nancy E. Roman, *Law on Artificial Insemination is Still in Infancy*, WASH. TIMES, Feb. 14, 1994, at A8.

284. No. PI 95–4965 (D. Minn. Sept. 13, 1995), *quoted in* Holly J. Harlow, *Paternalism Without Paternity: Discrimination Against Single Women Seeking Artificial Insemination by Donor*, 6 S. CAL. REV. L. & WOMEN'S STUD. 173, at 208 n.207 (1996).

"married" in the provision providing that the donor shall not be treated as the biological father of the child conceived through AI. The court concluded that since the legislature chose not to provide such protection for an unmarried woman it could not conclude that the state's Human Rights Act applied here.[285]

The second type of legal case stemmed from unmarried women's independent efforts to locate sperm without the aid of medical facilities. This brought a new factor into the picture—the known donor. In AID practice to this point, known donors were quite rare The first case involving a known donor whose sperm was used to inseminate a single woman was brought before the courts in 1977.[286] The known donor cases typically involved a donor whose identity was known to the mother and who filed suit for visitation or custody of a child born through insemination with his sperm. In the characteristic scenario the donor and the mother agreed that there would be no relationship or a limited relationship between the donor and the child. The donor then decided to seek further rights based on the relationship that in fact developed after the child was born. The conclusion often reached by the courts was that the AI statute providing that the donor is not the natural father is inapplicable in cases of known donors. Thus, the donor was held to be the natural father.[287]

The third type of legal case resulted from the resort to self-insemination. Many states adopted statutes which required that the procedure be performed by a physician.[288] Furthermore, one state

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285. Harlow, *supra* 284, at 207–10; Mike Kaszuba, *Lesbians Sue Clinic*, STAR TRIB., Apr. 10, 1995, at 1A.

286. *See* C.M. v. C.C., 377 A.2d 821 (N.J. Juv. & Dom. Rel. Ct. 1977).

287. *See id.* (enforcing support obligation on the husband); *In re* R.C., 775 P.2d 27, 27–35 (Colo. 1989); Jhordan C. v. Mary K., 224 Cal. Rptr. 530 (Cal. Ct. App. 1986) (presumptively extending the provision declaring the father not to be the natural donor to unmarried women). *But see* McIntyre v. Crouch, 780 P.2d 239 (Or. Ct. App. 1989) (holding the protection of the statute is maintained even when the donor is not anonymous and despite an agreement to the contrary).

288. Currently, twenty-one states have adopted statutes referring to the execution of the procedure by a physician. ALA. CODE § 26-17-21 (2001); ARK. CODE ANN. § 9-10-202 (Michie 2001); CAL. FAM. CODE § 7613 (Deering 2001); COLO. REV. STAT. 19-4-106 (2000); CONN. GEN. STAT. § 45a-772 (2001); GA. CODE ANN. § 43-34-42 (2000); IDAHO CODE § 39-5402 (Michie 2000); 750 ILL. COMP. STAT. 40/3 (2001); KAN. STAT. ANN. § 38-1114 (2000); MINN. STAT. § 257.56 (2000); MO. REV. STAT. § 210.824 (2000); MONT. CODE ANN. § 40-6-106 (2000); NEV. REV. STAT. ANN. § 126.061 (Michie 2001); N.J. STAT. ANN. § 9:17-44 (West 2001); N.M. STAT. ANN. § 40-11-6 (Michie 2000); OHIO REV. CODE ANN. 3111.90 (Anderson 2001); OKL. ST. TIT. 10, § 553 (2000); OR. REV. STAT. § 677.360 (1999); WASH. REV. CODE § 26.26.050 (2001); WIS. STAT. § 891.40 (2000); WYO. STAT. ANN. § 14-2-103 (Michie 2001).

provided statutory protection to a physician or hospital that refused to perform artificial insemination.[289] Thus, some courts in states where such statutes were enacted have held that where the woman failed to meet the prerequisite of being inseminated by a physician, she was not entitled to the protection of the provision declaring the donor not to be the natural father.[290]

The development of the AI case law throughout the controversy surrounding its use by unmarried women is distinguished by two characteristics: (1) the incompleteness of the acceptance process achieved through legalization is exhibited by the reluctance to accept the alternative conception of the family embedded in the technology; and (2) technological invisibility that is accompanied finally by an open legal discussion of the social ramifications of the technology.

First, the rise of the controversy clearly demonstrated that the socio-legal acceptance of AID and its ramifications did not amount to an acceptance of the full ramifications of the technology; namely, the alternative conception of the family resulting from the ability to procreate without resort to sexual intercourse within the nuclear family. The acceptance of AID and its ramifications with regard to the family unit was at most a partial acceptance. True, the law abandoned the use of the sex-procreation connection as a means to preserve the organic family unit and accepted that the legal father does not necessarily have to be the natural father. However, these concessions still enabled the maintenance of the illusion of a traditional organic family composed of a mother, a father, and a child. Use of AI by single women and lesbians led to the creation of a single parent family or a two-mother family. These alternative uses would have shattered any remaining illusion of the traditional organic family unit. Thus, the socio-legal acceptance of the full ramifications of the technology, that is, the exposed non-traditional family unit, was obviously not yet achieved.

Second, the technology itself became invisible. The fact that a child was conceived through the technology and did not become a part of the family through other means (such as natural conception or adoption) no longer played a part in the judicial determination. Instead, a major part of

289. MD. CODE ANN., HEALTH-GENERAL § 20-214 (2001). A similar Kansas bill groups AI with other technological procedures such as abortion, cloning, and stem cell research and provides extensive protection to physicians and medical facilities that refuse to participate in such procedures. H.B. 2491, 2001 Sess. (Kan. 2001).

290. *See Jhordan*, 224 Cal. Rptr. at 537–38; *but see McIntyre*, 780 P.2d at 243.

the discussion was dedicated to the relationship between the parties after the child was born. The invisibility of the technology in this context apparently resulted from two sources. The first was the legalization process, which removed the technology itself from the center of the debate. Although only partial, the overall process of legalization and acceptance transformed the focus of the debate. The legitimacy of the use of the technology itself was no longer at issue. Second, beginning in the 1980s and throughout the 1990s, the technology of AI became merely one of many reproductive technologies. The technology of AI "merged" with the other reproductive technologies and, as will be seen in the next section dealing with surrogacy, the case law and pertinent legislation failed to distinguish between the different technologies.

Importantly, this technological invisibility was accompanied by an open discussion of the social ramifications of the technology. As was not the case before, the issue of the acceptance of the alternative, technologically constructed, family came out in the open not just through the discussion of a specific family relation. Courts candidly admitted that the issue at stake is the willingness to endorse the alternative family forms.[291] The open debate, nevertheless, did not inhibit the legal effort to control the phenomenon through indirect means. The indirect modes of control merely changed. For example, in a typical scenario where a lesbian couple agreed to jointly raise a child, born to one partner through AI, and later separated, many courts were reluctant to grant the partner any parental rights including visitation rights.[292] Judicial efforts to indirectly control the technology were similarly reflected in some courts' denial of petitions by a lesbian partner to adopt an AID child or denial of petitions by lesbian couples for allocation of parental rights. These petitions were denied despite the support by the biological mother.[293]

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291. *See, e.g.*, V.C. v. M.J.B., 748 A.2d 539, 556–58 (N.J. 2000) (Long, J., concurring) ("the nuclear family of husband and wife and their offspring is not the only method by which a parent-child relationship can be created. The values attached to family life, although properly attributed to the nuclear family model, can exist in other settings, including families created by unmarried persons regardless of their sexual orientation."); Paraskevas v. Tunick, FA 95007398, 1997 Conn. Super. LEXIS 1101, *40 (Conn. Super. Ct. Apr. 23, 1997).

292. *See generally* Alison D. v. Virginia M., 572 N.E.2d 27 (N.Y. 1991); White v. Thompson (*In re* Thompson), 11 S.W.3d 913 (Tenn. Ct. App. 1991). *But see* T.B. v. L.R.M., 753 A.2d 873 (Pa. Super. Ct. 2000), *aff'd*, 786 A.2d 913 (Pa. 2001).

293. *See, e.g.*, *In re* Adoption of Baby Z., 724 A.2d 1035, 1038–41, 1063 (Conn. 1999) (denying adoption by a lesbian partner); *In re* Ray, No. C-000436, 2001 Ohio App. LEXIS 548, *2–3, 8–10 (Ohio Ct. App. Feb. 16, 2001) (denying a petition for allocation of parental rights), *appeal granted*

Paradoxically, the combination of the indirect means of control and the technological invisibility in effect concealed the fact that a struggle surrounding the acceptance of the technology was still taking place. Under these circumstances the continuity argument was not raised. The continuity argument would have raised the claim that since the same technology is at issue as in AID the legal treatment should be equal. However, technological invisibility combined with indirect means of control made this form of legal debate unlikely.

Society has not, to this day, resolved the controversy surrounding use of AI by single women and lesbians. Despite a certain trend toward allowing parental rights, including visitation rights for a former lesbian partner and same gender co-parent adoptions, use of AI by single women and lesbians has not, to this date, gained socio-legal acceptance.[294] Currently, only thirteen states' legislation contains statutory language in which the term "married woman" does not appear in the provision denying the donor of any rights and obligations toward the AID child.[295] Furthermore, only three states provided further clarification by stating that the donor is not the natural father unless a written contract has been entered into.[296] Thus, despite the fact that in three decades of renewed controversy no state has banned unmarried women from access to AID or enacted a statute distinguishing between heterosexual women and lesbians regarding access to AID, the resistance to amend existing statutes and the indirect judicial measures of control point to the incomplete acceptance status of the technology.

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sub nom., *In re* Bonfield, 751 N.E.2d 485 (Ohio 2001), *motion granted*, *In re* Ray, 756 N.E.2d 1236 (Ohio 2001).

294. *See generally In re* Guardianship of Oliva J., 101 Cal. Rptr. 2d 364 (Cal. Ct. App. 2000); J.C. v. C.T., 711 N.Y.S.2d 295 (Fam. Ct. 2000); V.C., 748 A.2d 539; E.N.O. v. L.M.M., 711 N.E.2d 886 (Mass. 1999); Rubano v. DiCenzo, 759 A.2d 959 (R.I. 2000); *In re* Adoption of Two Children by H.N.R., 666 A.2d 535 (N.J. Super. Ct. App. Div. 1995). But see A.B. 820, 209th Leg. (N.J. 2000), a New Jersey Bill reacting to this trend by providing that a person who is not a natural parent or an adoptive parent of a child has no custody or visitation rights over the objection of the natural or adoptive parent.

295. *See* CAL. FAM CODE § 7613 (Deering 2001); COLO. REV. STAT. § 19-4-106 (2000); IDAHO CODE § 39-5405 (Michie 2000); 750 ILL. COMP. STAT. ANN. § 40/3 (West 2001); N.H. REV. STAT. ANN. § 168-B:3 (2000); N.J. STAT. ANN. § 9:17-44 (West 2001); N.M. STAT. ANN. § 40-11-6 (Michie 2000); OHIO REV. CODE ANN. § 3111.95 (Anderson 2001); OR. REV. STAT. § 109.239 (1999); TEX. FAM. CODE § 151.101 (2000); WASH. REV. CODE ANN. § 26.26.050 (West 2001); WIS. STAT. § 891.40 (2000); WYO. STAT. § 14-2-103 (2001).

296. *See* N.J. STAT. ANN. § 9:17-44 (WEST 2001); N.M. STAT. ANN. § 40-11-6 (MICHIE 2000); WASH. REV. CODE ANN. § 26.26.050 (West 2001).

To conclude, two factors stand out as the forces that inhibited the acceptance of this new use of AI. The first is the absence of the physicians as a mediating group between legal uncertainties, societal inhibitions, and the desire of women to procreate. Because they did not view AI for lesbians or single women to be a cure, they did not perform the important mediating function they undertook in the 1940s and1950s. On the contrary, the reluctance of many physicians to treat unmarried women was the source of many of the legal encounters between those seeking to use the technology and the law. These encounters escalated the legal uncertainty regarding the use of the technology by unmarried women, and further inhibited use of the technology. Furthermore, the cure frame of meaning, which so far successfully led the campaign for acceptance, became a trap. The absence of the physicians' promoting efforts rendered it a much weaker mobilizing tool. In addition, the historical use of the cure frame of meaning weakened the alternative frame of meaning of choice in this context. Thus, those advocating AI were now left without a powerful frame of meaning to promote their efforts.

Second, the crisis manifested here demonstrates that the basic social implication represented by AI—an alternative concept of the family stemming from the ability to procreate without resort to sexual intercourse within the traditional family unit—was never accepted. The conception of a society divided into orderly organic units was not abandoned. Thus, the acceptance of the basic technology of AI was at most partial and its ability to aid the acceptance of the new application was therefore limited. Importantly, it is the current invisibility of the technology which conceals the fact that it is the acceptance process of the technology and its social implication which remain at issue here and masks the artificial nature of the resolution reached through the legalization process which took place since the 1960s. At the same, it should be emphasized that the change in the nature of the legal discourse from a focus on the technological features to an open debate of the social ramifications did not to this point resolve the controversy.

B. The Application of Artificial Insemination to Surrogacy

Surrogacy by natural means—through intercourse between the husband of an infertile woman and a fertile woman who agrees to carry the child and hand it over to the infertile wife and her husband—was practiced since biblical times. The bible tells the story of three slaves Hagar, Bilhah, and Zilpah who gave birth and handed their children over

to their mistresses Sarai, Rachel, and Leah.[297] Most likely such arrangements existed through the years where a woman, sometimes a relative or a friend, would carry and deliver a child for an infertile couple on a purely altruistic basis.[298] However, the application of the technology of AI to the practice of surrogacy, the first publicized case of which took place in the mid-1970s, changed both the scale and the quality of the practice.[299] The application of the AI technology to the surrogate mother arrangement required no further development in the state of the art of the technology. Nevertheless, it produced a new social institution. AI technology extended the practice of surrogacy to strangers who were often motivated by monetary incentives. AI's ability to facilitate surrogacy without requiring intercourse between the infertile women's husband and the surrogate combined with the promised monetary reward, extended the pool of potential candidates.

This novel application of AI created a new public storm of larger proportions than ever before. Furthermore, the societal debate was stimulated by the media—a factor which was less prevalent at the time AID was debated in the 1940s–1950s.[300] Societal attitudes toward surrogacy diverged sharply. Even the feminist movement, which traditionally supported AI, was split because part of it viewed surrogacy to be an exploitation of women.[301] Notions of technological continuity were not, in general, featured in the public debate. The phenomenon of surrogacy, despite its complete reliance on old technology, was viewed as a new scientific endeavor.

Religious authorities were also caught up in the public controversy. Religious authorities, at times expressly and at times implicitly, tended to follow the attitudes they established toward the basic application of AID. Nevertheless, the new release of religious statements to respond to the public uproar weakens the conclusion that religious authorities presumed

297. *See Genesis* 16:30; *Genesis* 30:1–7; *Genesis* 30:9–12.

298. Christine L. Kerian, Surrogacy: *A Last Resort Alternative for Infertile Women or a Commodification of Women's Bodies and Children?*, 12 WIS. WOMEN'S L.J. 113, 117 (1997).

299. The tale of the first publicized modern surrogacy is told by Noel Keane the attorney who handled the arrangement. *See* NOEL P. KEANE & DENNIS L. BREO, THE SURROGATE MOTHER 11–94 (1981).

300. *See, e.g.*, Patricia A. Avery, *Surrogate Mothers: Center of a New Storm*, U.S. NEWS WORLD REP., June 6, 1983, at 76; Otto Freidrich, *A Legal, Moral and Social Nightmare*, TIME, Sept. 10, 1984, at 54; Jay Matthews, *Surrogate Motherhood Becoming an American Growth Industry*, WASH. POST, Jan. 24, 1983, at A2; Andrea Sachs, *And Baby Makes Four*, TIME, Aug. 27, 1990, at 53; Claudia Wallis, *A Surrogate's Story*, TIME, Sept. 10, 1984, at 53.

301. Kerian, *supra* note 298, at 158–61.

technological continuity. The Catholic Church expressed strong opposition to surrogacy viewing it as contrary to the unity of marriage and the dignity of procreation of the human person.[302] Both Protestant and Jewish reactions were mixed. Most Orthodox Jewish authorities, consistent with their attitude toward AID, viewed surrogacy as adultery and condemned it on additional grounds such as the objection that it constituted use of a person as an incubator.[303] Conservative Jews exhibited a range of views, while an organization of Reform Jewish leaders issued a formal statement that surrogacy is acceptable in some cases where other options are absent.[304]

The use of AI to accomplish the surrogacy arrangement changed the factual pattern to which the law began accommodating since the 1960s. AI technology within the surrogacy arrangement now involved a known third party who not only gave birth to the child but was also its genetic mother through use of her ovum and who was required to relinquish all rights to the child. Moreover, the sperm donor was now to be the intended father. The new factual pattern created a new tension with regard to traditional family law concepts. In the same way that AID split the concept of fatherhood, surrogacy split the concept of motherhood—one woman donated the egg and carried the child while the other raised it. An examination of the development of the law relating to surrogacy demonstrates that, at times, application of family law principles restricted the execution of the surrogacy agreement on its terms. On the other hand, where the courts resorted to contract law, the surrogacy agreement was enforced according to its terms.

As discussed in previous sections, a general goal of family law was to preserve the traditional organic family unit. Thus, family law principles maintained an inherent resistance to the consequences of any technology that created a non-traditional family cell. The practice of surrogacy, on its face, conflicted with certain family law provisions, most prominently baby selling provisions of adoption statutes and statutes regulating AI. Thus, family law principles often acted to prevent the termination of the rights of the surrogate mother—the biological mother who gave birth to

302. THE NEW YORK STATE TASK FORCE ON LIFE AND LAW, *supra* note 183, at 100–01. In 1987 Pope John Paul II issued a statement that: "The child has the right to be conceived, carried in the womb, brought into the world and brought up within marriage: it is through the secure and recognized relationship to his own parents that the child can discover his own identity and achieve his own proper human development." Kerian, *supra* note 298, at 153.

303. THE NEW YORK STATE TASK FORCE ON LIFE AND LAW, *supra* note 183, at 101–03.

304. *Id.*

the child—who was viewed as the traditional primary caretaker. Where such principles were applied, judicial determinations did not always reflect the original surrogacy arrangement but some variation, which took into account the interests of the surrogate. For example, in *In re Baby M.*,[305] the court decided the case on family law principles and the surrogate mother was granted visitation rights.[306]

Application of family law principles to surrogacy did not always result in a refusal to enforce a surrogacy agreement according to its terms. The result of the judicial determination depended on the specific family law principle at issue. Conflicts with the baby sale provisions of adoption statutes arose due to the commercial element of the surrogacy arrangement.[307] Surrogacy came into direct conflict with these statutes because the surrogacy procedure included a legal adoption of the child by the intended mother. Unlike the practice of AID where anonymity and secrecy could be preserved, use of AI through surrogacy mandated the parties' resort to the law even before a conflict developed.[308] Nevertheless, courts came to contradictory results with regard to these conflicts. Some invalidated the surrogacy contract because it conflicted with adoption law,[309] while others held that the adoption statute does not preclude the surrogacy adoption.[310]

The refusal of some courts to apply adoption statutes to invalidate surrogacy agreements may be explained by the notion of technological continuity. The court in *In re Baby Girl*[311] declined to void the surrogacy agreement, stressed that "[t]he problem is caused by the wife's infertility. The problem is solved by artificial insemination. The process is not biologically different from the reverse situation where the husband is infertile and the wife conceives by artificial insemination."[312] This could

305. 537 A.2d 1227 (N.J. 1988).

306. *See id.*

307. It should be noted that money did exchange hands before. Semen donors were traditionally paid for their sperm. However, in the case of surrogacy the person being paid was in the picture when the baby was born while the sperm donor evaporated into the background at least nine months beforehand.

308. *See In re* Adoption of Paul, 550 N.Y.S.2d 815, 816 (N.Y. Fam. Ct. 1990).

309. *See id.*; R.R. v. M.H., 689 N.E.2d 790, 796–97 (Mass. 1998).

310. *See, e.g.*, Surrogate Parenting Associates, Inc. v. Commonwealth *ex rel* Armstrong, 704 S.W.2d 209, 210–14 (Ky. 1986); *In re* Adoption of Baby Girl L.J., 505 N.Y.S.2d 813 (N.Y. Sup. Ct. 1986); *In re* Adoption of Baby A, 877 P.2d 107 (Or. Ct. App. 1994).

311. 505 N.Y.S2d 813 (1986).

312. *Id.* at 817. *See also Surrogate Parenting Associates, Inc.*, 704 S.W.2d at 212.

indicate that the acceptance which was reached with regard to AID, as partial as it was, did to some extent modify the controversy surrounding the new uses of the technology. However, such statements were the exception and not the norm even by courts upholding the surrogacy arrangement. Nevertheless, application of family law principles did not completely obstruct the validation of surrogacy agreements because the conflict here did not expressly involve the parental status of the surrogate or the intended parents and consequently the direct construction of an alternative family unit.

Apparently, when surrogacy conflicted with the laws controlling the determination of family roles, the results were more uniform. Such was the case when surrogacy conflicted with the laws directly regulating AI. The statutes following the UPA provided that the child born to a married woman as the result of AI, with the consent of the husband, is considered to be the legitimate child of the husband and wife. This was obviously in conflict with the aim of the surrogacy arrangement because it made the surrogate and her husband (who was not even the natural father) the legal parents of the born child.[313] This provision was of course designed to prevent the AID donor from acquiring rights and duties as to the AID child instead of the sterile husband. Ironically, one decade later, the very law, which was enacted to accommodate AI, served as a double edged sword. In the case of surrogacy, where the sperm of the intended father was inseminated in a woman who was not his wife, the law achieved the absurd result of proclaiming the intended father who was also the natural father not to be the legal father of the baby. Courts, faced this time with the disintegration of the concept of motherhood, the traditional primary caretaker of the child, tended to invalidate the surrogacy agreements on the basis of these statutes.[314]

The conclusion that the courts were more likely to enforce the surrogacy agreement as is when the concept of motherhood was not at issue is strengthened by the unique role played in surrogacy cases by the "best interest of the child" test. Courts repeatedly used the best interests of the child test in surrogacy cases to grant custody to the intended parents.[315] This was done even when the court invalidated the surrogacy

313. Walter Wadlington, *Artificial Conception: The Challenge for Family Law*, 69 VIRGINIA L. REV. 465, 476–82 (1983).

314. *See In re* Marriage of Moschetta, 30 Cal. Rptr. 2d 893 (Ct. App. 1994); *In re* Adoption of Reams, 557 N.E.2d 159, 163–64 (Ohio Ct. App. 1989). *But see R.R.*, 689 N.E.2d at 795–96 (holding that the AI statute does not invalidate the surrogacy agreement).

315. *See generally Adoption of Baby A*, 877 P.2d 107.

agreement on the basis of adoption statutes.[316] The best interests of the child test does not focus on the rights of the parents but on the interests of the child. For example, in *In re Baby M*, the court restricted its examination to the family life of the two families and the personalities of the individuals involved.[317] In applying the best interests of the child test, courts generally did not treat the genetic factor as a presumption in favor of the natural parent but merely as one factor to be considered among many others.[318] Once the genetic factor lost its presumptive power, the traditional struggle with the concept of motherhood was removed and courts granted custody to the intended parents.

Although family law principles seemed to furnish mixed results when applied to surrogacy cases, contract law principles offered uniformity. It was apparently not the notion of technological continuity which facilitated legal adjustment to the new use of AI but the application of a set of legal rules which was not traditionally used to determine parental status. The application of contract law to traditional surrogacy generally rendered a legal result which supported the new use of the technology.[319] For example, in *In re Adoption of Matthew B.-M.*,[320] the court refused to allow the surrogate to withdraw her consent to the adoption by the intended parent. The court resolved the case on contract principles.[321] It refused to accept that she did not know her rights by pointing to a three and a half hour meeting with an attorney, the explicit language in the consent for adoption signed by her, and her conduct that gave clear evidence that she knew the consequences.[322] The court also held that a party to a contract who assumed the risk that the contract will be found illegal is estopped from arguing for relief on this basis.[323]

316. *See, e.g., In re* Baby M, 537 A.2d 1227, 1256–61 (N.J. 1988).

317. *Id.* at 1255–61.

318. *See* 2 AM. JUR. 2D *Adoption* § 137 (2000).

319. It must be noted, however, that unlike the courts some legislatures employed contract law terminology to invalidate surrogacy agreements. *See, e.g.,* N.D. CENT. CODE § 14-18-05 (2000).

320. 284 Cal. Rptr. 18 (Cal. Ct. App. 1991).

321. *Id.* at 23–29.

322. *Id.* at 28–29.

323. *Id.* at 24–25. Although, it must be noted, that the court also reached the result on the basis of the best interests of the child test. The court maintained that despite the applicability of contract law principles, the best interest of the child test remains the paramount consideration. *Id.* at 30. *See also In re* Steve B.D., 723 P.2d 829, 830–37 (Idaho 1986) (enforcing the surrogacy agreement and stating the surrogate was estopped from revoking her consent).

The application of constitutional law principles to surrogacy cases, on the other hand, did not achieve results similar to those accomplished through the application of contract law. In several cases, it was argued that the adoption statutes banning payment for babies were unconstitutional since they infringed the right to procreate.[324] In other cases, the argument was made that denying procreation where the wife was infertile while allowing it through AI when the husband was sterile was a violation of the equal protection clause.[325] However, the courts declined to find such statutes unconstitutional.[326] It may very well be that constitutional law principles lacked the advantage inherent in the entry of contract law into the debate. Constitutional law principles were already implicated in the removal of reproduction from sex dispute in the case law involving contraception and abortion.[327] Thus, courts may have been inhibited from expanding the scope of constitutional protection afforded to technologies involving the removal of sex from reproduction to procreation due to considerations related to the parallel debate.[328]

As can be seen, the determination of whether contract law or family law was applied was often dispositive of whether the surrogacy arrangement would be consummated as agreed. Yet, the courts varied as to the legal doctrine they chose to apply, producing conflicting legal results.

The debate was further complicated by the invention in 1978 of a new complementary technology—in vitro fertilization (IVF). The birth of Louis Brown, the first "test tube baby," was one of the world's leading media events.[329] The new technology was swiftly applied to surrogate

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324. *See, e.g.*, Doe v. Kelley, 307 N.W.2d 438, 439–41 (Mich. Ct. App. 1981).

325. *See, e.g.*, *In re* Baby M, 537 A.2d 1227, 1253–55 (N.J. 1988).

326. *See Kelley*, 307 N.W.2d at 441 (holding that the fundamental interest to procreate is not violated by a state statute which did not prohibit surrogacy but merely the payment of money as part of the arrangement); *Baby M*, 537 A.2d at 1253–55 (refusing to enforce a surrogate parenting agreement did not constitute a denial of equal protection because a sperm donor could not be equated with a surrogate mother); *In re* Adoption of Paul, 550 N.Y.S.2d 815, 817–18 (N.Y. Fam. Ct. 1990) (rejecting both the right to procreation and equal protection arguments). *See generally* Danny R. Veilleux, Annotation, *Validity and Construction of Surrogate Parenting Agreement*, 77 A.L.R. 4TH 70 (2000).

327. *See, e.g.*, Griswold v. Connecticut, 381 U.S. 479, 481–507 (1965)

328. It is most likely that the debate surrounding AID in the 1940s and 1950s did not extend to constitutional issues because the debate occurred before *Griswold*, which re-framed procreation in terms of privacy and the right to make one's own decisions. *See id.*

329. *See, e.g.*, Peter Gwynne et al., *All About that Baby*, NEWSWEEK, Aug. 7, 1978, at 66; *Frenzy in the British Press*, TIME, July 31, 1978, at 70; *The First Test-Tube Baby*, TIME, July 31, 1978, at 58.

motherhood. The application of IVF to surrogacy resulted in a different state of affairs—both the ovum and the sperm now belonged to the intended couple, the surrogate who gave birth had no genetic connection to the born child. This type of surrogacy was called "gestational surrogacy" as distinguished from AI surrogacy which became known as "traditional surrogacy."

Despite the distinct difference between the two technologies and their implications for family relations, neither the courts[330] nor the ensuing legislation distinguished between the two.[331] This was especially evident where legislatures made an effort to separately define the two technologies but did not go further to evaluate the differentiated effect of each technology on the resulting family relations.[332] Apparently, the AI technology itself became invisible. Certainly, it was known to be at the base of the surrogacy procedure but it was no longer really seen and its technical qualities were no longer taken into consideration. The popular resort to the term "test tube baby" also ironically reflected this. This was the very same term which was used to describe AI in the 1940s–1950s. The technological invisibility of AI and resulting failure to distinguish AI from the IVF technology within the surrogacy practice had two consequences. First, it made a resolution based on the continuity argument, which emphasizes the past acceptance of the practice of AI, less likely to occur. Second, it prevented the resolution of a tailored legal solution for each type of surrogacy based on the effect each technology would have on the resulting family relations.

Statements and publications made by the medical profession emphasize this second effect of the technological invisibility. Those

330. It must be acknowledged that where IVF technology was at issue, references were made to the older AI technology. However, this did not happen where AI technology was at issue. In those cases the technology was no longer really looked at—there are no references to the newer technology to distinguish its qualities from the older one. See for example, IVF case-law which used analogies to AI technology: *In re* Andres A., 591 N.Y.S.2d 946, 950 (Fam. Ct. 1992); *See generally In re* Marriage of Buzzanca, 72 Cal. Rptr. 2d 280 (Cal. Ct. App. 1998).

331. Kerian, *supra* note 298, at 145, 149; Lisa L. Behm, *Legal, Moral and International Perspectives on Surrogate Motherhood: The Call for a Uniform Regulatory Scheme in the United States*, 2 DEPAUL J. HEALTH CARE L. 557, 581 (1999). *But see In re* Marriage of Moschetta, 30 Cal. Rptr. 2d 893, 894–97, 903 (Ct. App. 1994) (distinguishing between the two types of surrogacy and hinging its decision on the fact that the intended mother was not the natural one).

332. *See, e.g.*, D.C. CODE ANN. § 16-401 (2000); MICH. COMP. LAWS § 722.853 (2001); N.H. REV. STAT. ANN. 168-B:1 (2000). Although two statutes do implicitly distinguish between the new technologies by stating that where pregnancy results from assisted conception the woman who donated the egg but is not the gestational carrier is the mother. N.D. CENT. CODE § 14-19-01 (2001); VA. CODE ANN. § 20-158 (MICHIE 2001).

closest to the technology have, in general, not lost sight of it. The Ethics Committee of the American Fertility Association in its reports on reproduction technologies surveyed the practices of AID, traditional surrogacy, and gestational surrogacy separately. It assessed separate considerations and recommendations for each according to the technology at issue. Furthermore, it specifically criticized surrogacy legislation for failing to make such distinctions.[333] Based on this differentiation, they recommended greater restrictions for traditional surrogacy where the surrogate is also the genetic mother than for gestational surrogacy where the intended mother is the genetic mother.[334] The physicians' approach demonstrates a middle way which does not rely on the continuity argument but at the same time is not blindfolded by the antiquity of the technology.

Notwithstanding its technological clarity of vision, the medical profession as a whole declined to support the practice of surrogacy. Physcians views reflected the division of opinions prevalent within the public at large. Some medical sources supported the practice, albeit several did so cautiously.[335] Some of those supporting the practice utilized the language of cure. For example, the American Fertility Society in its cautious and partial support of the practice maintained that "this process offers promise as the only medical solution to infertility in a couple of whom the woman has no uterus and who does not produce eggs or does not want to risk passing on a genetic defect that she carries."[336] At the same time, many other medical practitioners fiercely criticized it.

Criticism emerged from both representative bodies and private medical practitioners. The American Medical Association, for example,

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333. *See* The Ethics Committee of the American Fertility Society, *Ethical Considerations of the New Reproductive Technologies*, 46(3) FERTILITY & STERILITY 1s, 34s–38s, 58s–68s (Supp. 1986); The Ethics Committee of the American Fertility Society, *supra* note 276, at 10s, 41s–45s, 67s–77s. This approach appears in other medical sources. *See, e.g.*, Eugene C. Sandberg, *Only an Attitude Away: The Potential of Reproductive Surrogacy*, 160(6) AM. J. OBSTETRICS & GYNECOLOGY 1441, 1442–44 (1989).

334. The Ethics Committee of the American Fertility Society, *supra* note 276, at 67s–77s.

335. *See, e.g.*, Leonard J. Weber, *Social Responsibility Demands Treating All Patients in Need*, 68(2) HEALTH PROGRESS 38 (1987); Sandberg, *supra* note 333, at 1442–44.

336. The Ethics Committee of the American Fertility Society, *supra* note 333, at 67s. It should be noted that in its 1994 report the Committee somewhat diminished its support for the practice. The Committee added to its general recommendation a comment stating that due to serious ethical reservations some members believe that traditional surrogacy cannot be ethically recommended. The Ethics Committee of the American Fertility Society, *supra* note 276, at 76s.

concluded that surrogate parenting does not represent a satisfactory alternative for prospective parents.[337] Arguments raised by the medical professional organizations resembled those made by the public. The arguments included: the potential depersonalization of reproduction; adverse consequences for the way society views children; the possibility of eugenic manipulation; the physical and psychological risks to the surrogate; the risk of a conflict to the children, including the risk to a disabled child who may be unwanted by both parents; concern about the commercial aspect of surrogacy; and the lack of sufficient screening of prospective parents.[338] Furthermore, those opposing surrogacy supplemented their arguments by stressing that surrogacy is not a cure for infertility. It was expressly proclaimed that "[s]urrogacy . . . is neither curative nor palliative . . . . Surrogacy arrangements do not restore function . . . ."[339] Additionally, it was openly acknowledged that participation of health professionals would legitimize the "medical aspects" of the process.[340]

Thus, it becomes evident that the medical profession in this case, as in the case of the use of AI by unmarried women, did not mobilize behind the practice. To the contrary, the medical profession never did become an integral part of the practice. The surrogacy practice developed in entrepreneurial settings, generally apart from medical institutions. Although the founders of some surrogate mother programs were physicians, the majority were lawyers, social workers, or people with no professional training.[341]

Legal and social uncertainty related to the application of AI to surrogacy, thus, continued and prevails to this day. The controversy was further enflamed through the relatively recent resort to traditional surrogacy by gay men. This trend, which developed in the 1990s, enabled gay men to create a family through the application of AI

337. *See* AMERICAN MEDICAL ASSOCIATION, PROCEEDINGS OF THE HOUSE OF DELEGATES, 127 (Dec. 4–7, 1983).

338. *See id.* THE AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, ETHICAL ISSUES IN SURROGATE MOTHERHOOD: POLICY STATEMENT, May 1983.

339. John La Puma et al., *Surrogacy and Shakespeare: The Merchant's Contract Revisited*, 160(1) AM. J. OBSTETRICS & GYNECOLOGY 59, 61 (1989). *See also* Nadine Taub, *Surrogacy: A Preferred Treatment for Infertility*, 16(1–2) L. MED. & HEALTH CARE 89 (1988).

340. Karen H. Rothenberg, *Baby M, the Surrogacy Contract, and the Health Care Professional: Unanswered Questions*, 16(1–2) L. MED. & HEALTH CARE, 113, 115 (1988).

341. The Ethics Committee of the American Fertility Society, *supra* note 276, at 72s.

technology to surrogacy.[342] Gay surrogacy injected elements from the parallel AI debate involving single women and lesbians into the surrogacy controversy.

Resolution of the surrogacy debate is not in sight. As discussed above, judicial determinations reach conflicting results mostly dependent on their choice of doctrine. Furthermore, only sixteen states have enacted statutes addressing some aspect of surrogacy.[343] States take one of the following four positions: (1) surrogacy arrangements are prohibited and punishable; (2) surrogacy arrangements are permitted but compensation to the surrogate is prohibited and punished; (3) surrogate contracts are not specifically made illegal but are viewed as void and unenforceable; and (4) surrogacy contracts are enforceable provided certain regulatory measures are met.[344]

The technological continuity argument could have facilitated the acceptance process of this new application of surrogacy. It could have done so by opening the way to a structured solution based on differentiation between the two technologies at the basis of the surrogacy practice.[345] However, this form of argument was rarely raised. It is most likely that the combination of technological invisibility, indirect modes of control, and incomplete nature of the acceptance of the AI technology prevented the continuity argument from prevailing.

Apparently where it was the concept of motherhood—the traditional caretaker—that was visibly fragmented the acceptance achieved through the earlier AID crisis evaporated. It is ironic that it was the perceived acceptance of the technology through the resolution of the AID controversy which produced its invisibility and therefore impeded acceptance. The application of AI technology to surrogacy has, thus at large, not significantly benefited from previous acceptance of the technology and was not assisted, as was the case with AID, from mobilization by the medical profession. The surrogacy controversy thus

342. *See generally* Marla J. Hollandsworth, *Gay Men Creating Families Through Surro-Gay Arrangements: A Paradigm for Reproductive Freedom*, 3 AM. U. J. GENDER & L. 183 (1995).

343. Catherine DeLair, *Ethical, Moral, Economic and Legal Barriers to Assisted Reproductive Technologies Employed by Gay Men and Lesbian Women*, 4 DEPAUL J. HEALTH CARE L. 147, 167 (2000).

344. *Id.* at 167–68.

345. Such differentiation would have most likely discriminated against traditional surrogacy where the surrogate is the genetic mother. This Article does not advocate such a solution. This point is raised merely to emphasize the effect of invisibility on the potential stabilization and resolution of the controversy.

produces further evidence of the partial nature of the acceptance achieved through the legalization of the AI technology in the 1960s and1970s.

CONCLUSION

In the beginning of the twenty-first century, we are already enveloped by the effects of new technologies on our existing structure of socio-legal values. The existence of cloning technology and its application to human cloning threatens our socio-legal concepts of identity and autonomy. The Internet information revolution has a profound effect on our socio-legal concept of privacy. And, at the same time, ownership of genetic information, particularly in human genes, has acted to deeply unsettle our social and legal notions of property.

Whether we move assertively to meet these challenges or undertake a more passive approach—we make a choice. These choices may, at times, be visible, as in the case of the cloning debate, but may also be undertaken subtly through indirect legal control devices or through inaction. This Article suggests that, because value laden choices on some level are always made at the diffusion stage, legal scholarship should not restrict its focus to the invention and innovation stages of new technologies and to the economic aspects of the diffusion process. Academic attention needs to be drawn to fill in the current void in legal diffusion studies. The role played in AI's struggle for acceptance by incompatible conceptions of the family demonstrates the particular significance of extending the inquiry to those cases where values embedded in the technology prove to be incompatible with the corresponding prevailing socio-legal values.

This Article proposes a new conceptual approach to guide legal policy in this relatively unexplored field of diffusion studies. Its first contribution is the proposal of a general framework for the study of the diffusion stage. The Article emphasizes the importance of undertaking a broad approach to the study of the acceptance process, involving the analysis of the interactions between the technological, the social, and the legal spheres. It also demonstrates that utilizing this broad approach is vital to achieving a thorough understanding of the effects of the legal role on a diffusion process involving incompatibile values. The Article proposes that further exploration of the diffusion stage through utilization of this broad approach will be a promising route for understanding and promoting legal influence on technological progress. The other contribution of this Article relates specifically to the nature of

the legal acceptance process. The Article illuminates some of the concepts that need to guide this inquiry.

First, the Article underscores the possibility that legal acceptance will be only of an incomplete and temporary nature. It demonstrates that despite the legalization of AID in the 1960s–1970s, the social implication of the technology—the creation of alternative family forms through procreation without resort to sexual relations within the traditional nuclear family unit—was never fully accepted. This became evident through the socio-legal reluctance to accept the new applications of the technology to surrogacy and to the insemination of unmarried women that emerged in the 1970s, subsequent to the legalization of the technology.

Second, the acceptance process of AI demonstrates the law's strength as an inhibitory force and its relative weakness as a technology promoting device. The law, without an express uniform condemnation of the practice, but merely through several condemning and contradictory judgments, legislative silence, and inertia, produced a state of legal uncertainty which inhibited the diffusion of the practice of AI as it began to bloom in the 1940s–1950s. On the other hand, the effort to legalize the use of the technology did not exert such an immediate influence. This was reflected in the slow change in the procedures used by the physicians applying the technology and in the eventual reluctance to accept the new uses of AI in the 1970s.

Third, the extent to which the technology was visible played an important role in the legal AI discourse. During the earlier history of AI the technology was visible and its mode of application played a key part in judicial determinations regarding the technology. However, subsequent to the legalization of the technology in the 1960s and 1970s, the technology became invisible. The legal debate dealing with the application of AI to surrogacy and the use of AI by unmarried women did not focus on the technology itself and on the fact that the same technology as before was at stake. Instead it focused on the technology's social implication—the creation of alternative family forms through procreation outside the traditional nuclear family. The visibility of the technology, therefore, determined the type of arguments raised and considered and to a certain extent the nature of the outcome reached.

Fourth, technological frames of meaning also played an important role in the technology's legal acceptance debate. The two competing frames of meaning—the frame of meaning of cure and the frame of meaning of choice—existed throughout the acceptance process of AI. They appeared from the very first legal cases and were closely related to the turns in the

fate of the technology. The shift toward an acceptance of the technology took place in the 1950s when the physicians uniformly mobilized behind the frame of meaning of cure and engaged in the promotion of the technology by arguing that it was a cure for infertility. The frame of meaning of cure with regard to AID finally prevailed during the legalization era. At the same time, the reluctance to accept the new uses of the technology which emerged in the 1970s was closely related to the absence of a resolution between the two competing frames of meaning. Society, the law, and importantly the physicians are divided to this day between the view of these uses as a matter of choice and their perception as a cure for infertility.

Fifth, the Article identifies the significance of the existence of a mobilizing social group to attain legal acceptance. The physicians, in their position as the gatekeepers of the technology, played a key role in the socio-legal acceptance process of AI as mediators between society and the law. In the 1950s, they mediated between the social desire to use the technology and the inhibitions stemming from the prevailing legal uncertainty and their efforts were vital to the successful diffusion of the technology. At the same time, the physicians' reluctance to promote the new applications of the technology in the 1970s was an important factor in these applications' failure to achieve socio-legal acceptance.

Sixth, the Article highlights the use of alternative legal doctrines as a vehicle of change and acceptance. The acceptance of AI was impeded when courts applied traditional family law concepts originally designed to protect the traditional family unit. On the other hand, the acceptance of AI was facilitated when courts, instead of reworking family law concepts, resolved the legal controversy by applying legal doctrines that were not historically implicated in the protection of the family unit. Courts adjudicating both AID and traditional surrogacy cases often applied contract law doctrines in order to facilitate the acceptance of the technology. The use of contract doctrines that were not inherently structured to preserve the traditional family unit enabled judicial resolutions that accepted the technology in its different applications.

The outlined conceptual framework of the legal acceptance debate is proposed as a first step toward a comprehensive approach that will fill in the existing void in legal diffusion studies. The formulation of a comprehensive approach designed to deal with the legal acceptance debate, in particular with those cases involving incompatible values, will enable us to approach new and existing technological challenges with full awareness of the consequences of our choices.